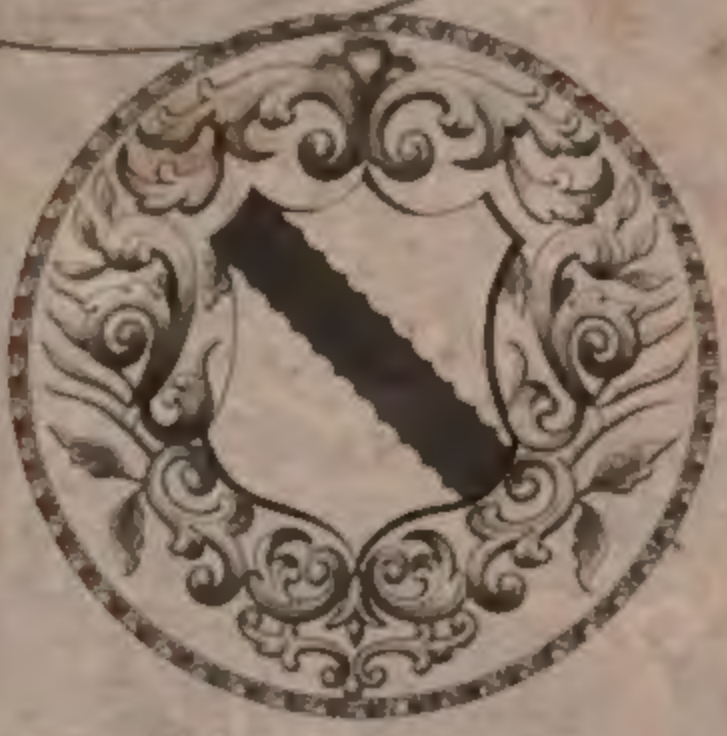
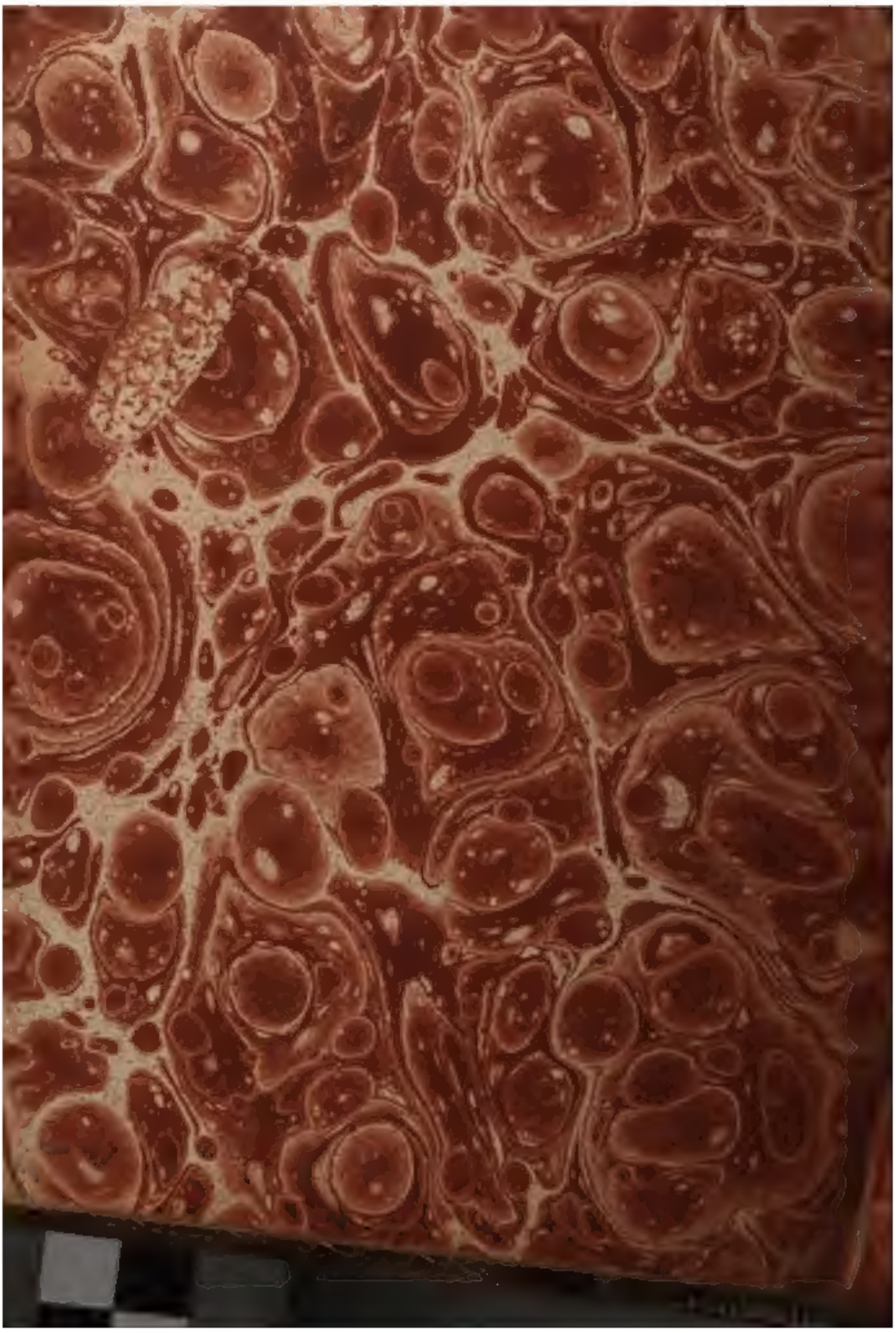




ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——" VIRESQUE ACQUIRIT EUNDO."—— *Virg.*

VOL. XXII.

LONDON:

PRINTED BY R. TAYLOR AND CO., 38, SHOE-LANE, FLEET-STREET;
And sold by the Proprietor, J. SOWERBY, at No. 2, Mead Place, Lambeth; by Messrs. WHITE, Fleet-street; JOHNSON, St. Paul's Church-yard; SYMONDS, Pater-noster-row; and by all Booksellers, &c. in Town and Country.

MDCCCVI.

CONFERVA inflata.

Tumid-jointed Conferva.

CRYPTOGAMIA Algæ.

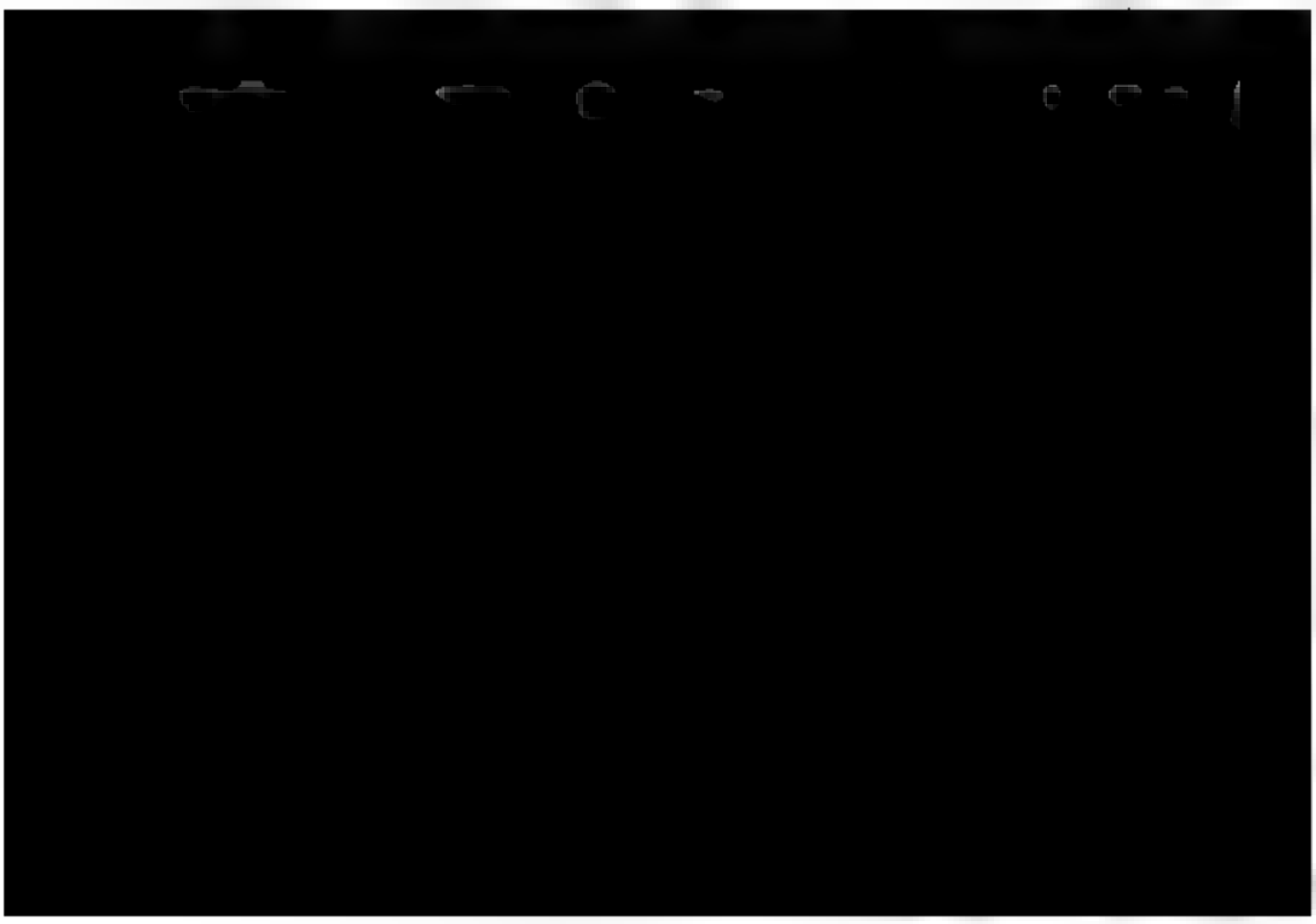
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

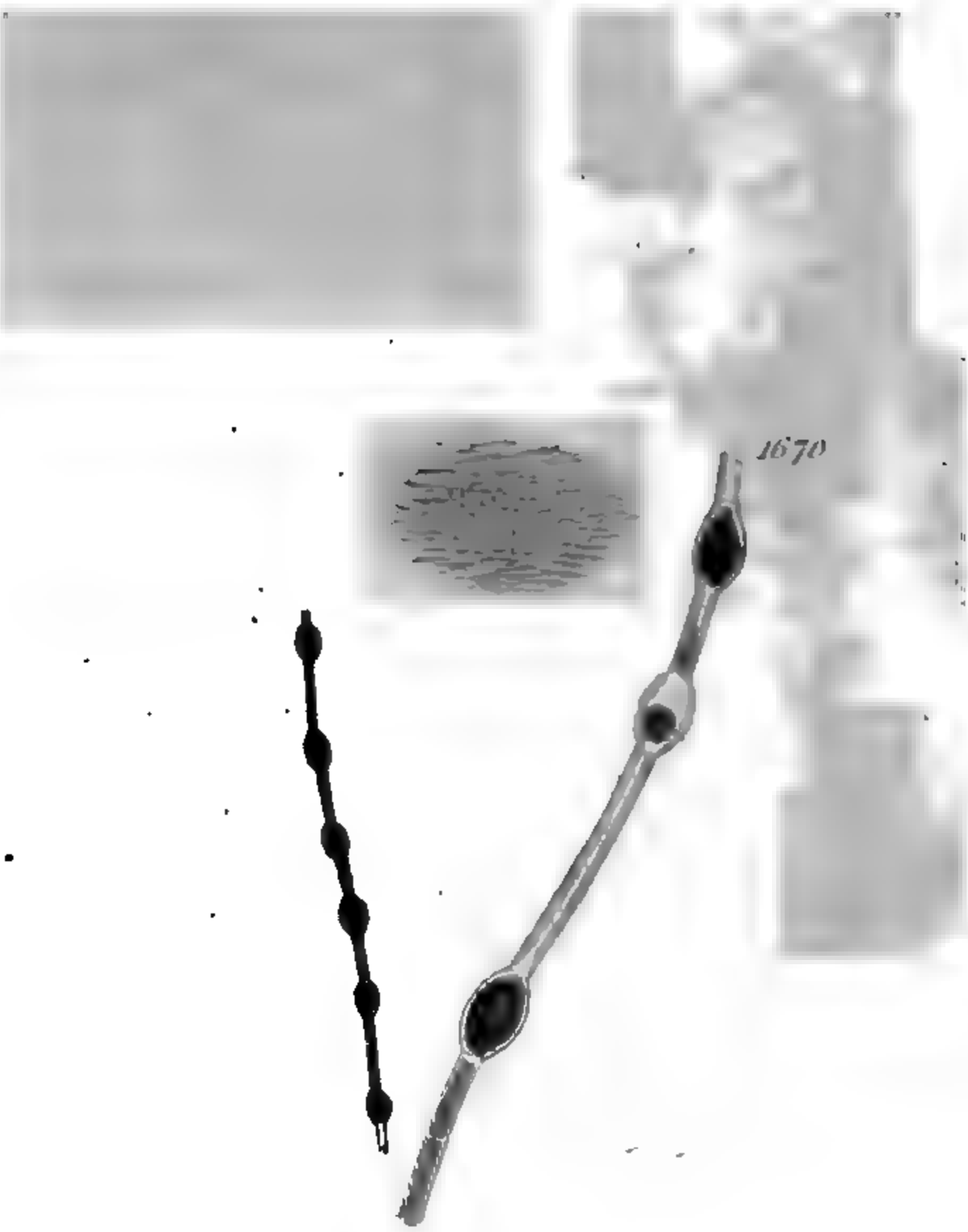
SPEC. CHAR. Green. Filaments unbranched. Joints three times as long as broad; when fertile swelling and elliptical.

SYN. Conjugata inflata. *Vaucher Conf.* 68. *t.* 5. *f.* 3.

FOUND by Mr. W. Borrer in fresh water at Henfield, Sussex, in March last.

The filaments are but the 700th part of an inch in diameter, simple, jointed, pellucid and almost colourless, consisting at first of exactly cylindrical joints about thrice as long as they are broad, marked (according to M. Vaucher's observations in all this tribe) with green colouring matter in spiral lines. The same acute investigator has seen the joints afterwards swell, becoming elliptical, and each protruding a lateral tube so as to unite with similar tubes of a neighbouring plant. The colouring matter of one joint passes into the other, its spiral appearance being entirely lost. At length each joint





Nov. 1.1864. Published by Jos. Swain, London

CONFERVA spiralis.

Combined Spiral Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Light green. Filaments unbranched, slender, slippery. Joints a little swelling, longer than broad. Colouring matter in spiral lines.

SYN. Conferva spiralis. *Roth. Catal. v.* 2. 202. *Dillw. Conf. t.* 3; also *t.* 4. *f.* A, B, according to Mr. J. Woods.

NOT unfrequent, according to Mr. W. Borrer and Mr. J. Woods, in fresh water in the spring, though of short duration. It grows in dense masses, of rather a light green. The filaments are an inch or two long, unbranched, from the 700th to the 500th of an inch in diameter; when magnified they appear almost white, spotted with green in a curious manner, each joint when young being marked with a spiral line, apparently of grains or seeds, which afterwards unite into an

CONFERVA cærulescens.

Sky-blue Conferva.

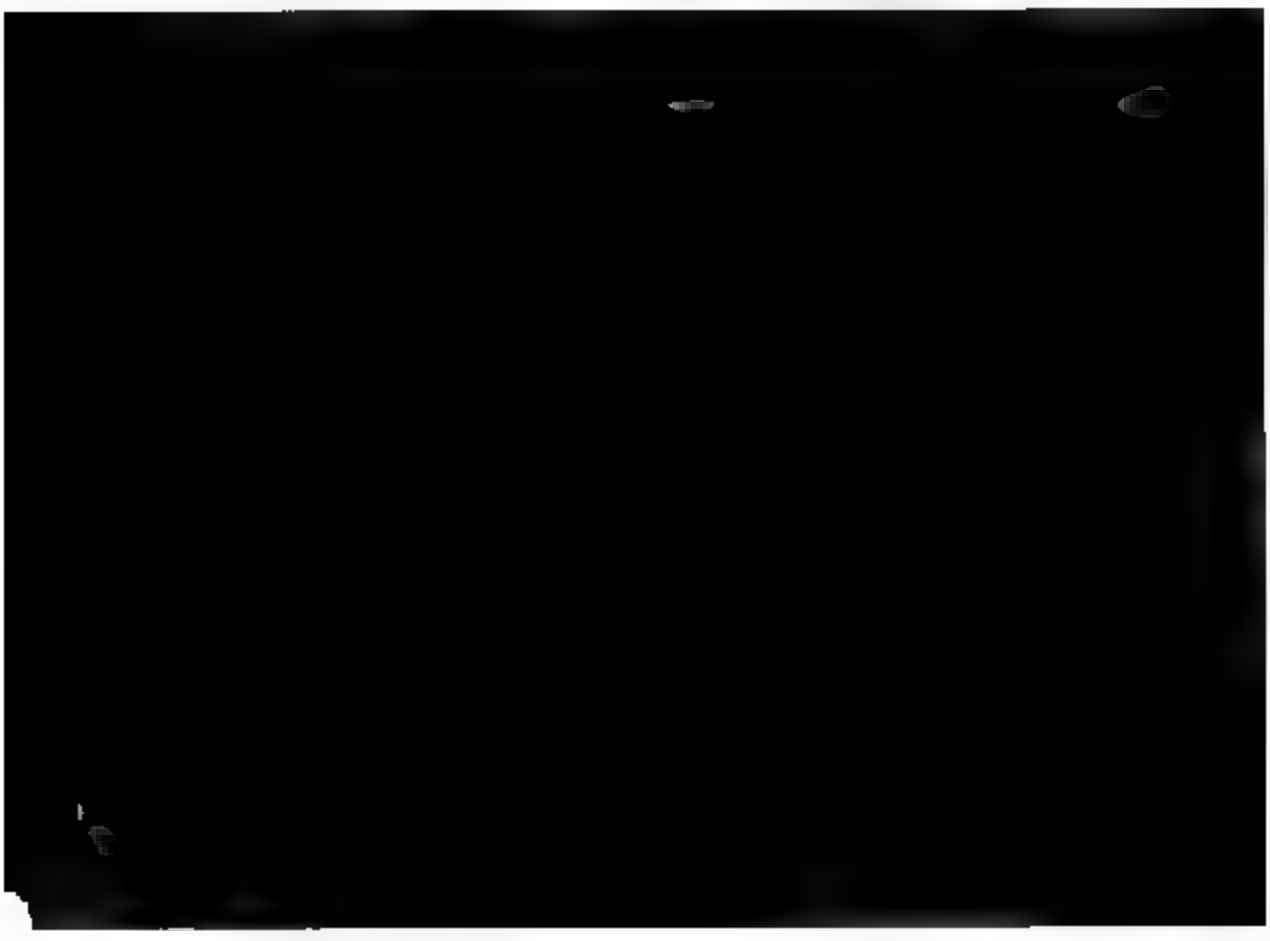
CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Light purplish blue. Filaments unbranched, slender, curved, approximating and uniting here and there. Joints six times as long as broad, the combined ones greatly shortened. Seeds green.

FOUND by Mr. W. Borrer, in a boggy pool on Henfield Common, Sussex, July 3d, 1812, and communicated to us under the above name, which appears very suitable.

The dull blueish hue of the threads is unusual in this tribe of *Conferva*, and their mode of union, or at least its consequences, is peculiar. The joints are originally six or eight times as long



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4.

CONFERVA bipunctata.

Double-dotted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments unbranched, slippery, cylindrical. Joints rather longer than broad, each double-dotted.

SYN. Conferva bipunctata. *Roth. Catalect. v. 2. 204. Dillw. Conf. t. 2.*

NOT uncommon in stagnant waters. Mr. Turner has several times shown it to us at Yarmouth. These specimens were collected in Tothill fields by Mr. Sowerby in September 1802.

It is found, as Mr. Dillwyn observes, "either floating in thick masses on the surface, or loose and straggling at the bottom of the water." The colour of the whole mass is a more or less yellowish green. The filaments are several

5.

CONFERVA stictica.

Many-dotted Combined Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, very slender, here and there slightly bent, and combined by their angles. Joints cylindrical, four times as long as broad. Colouring matter in a triple irregular series of dots.

COMMUNICATED by Mr. W. Borrer from ditches in Henfield Level, Sussex, with the following remarks.

It forms large masses on the water, much like *C. fracta*, *t.* 2338, full of air-bubbles, being pale and yellowish above water, and of a blackish green under. The threads are not slippery, like other combined species. Their diameter nearly equals *C. nitida*, *t.* 2337, but the joints are four or five times longer than broad. When young, the colour is a dull pale green, and about three imperfectly spiral lines of shining granules are with difficulty distinguishable. Afterwards these lines become more conspicuous, the rest of the filament being now perfectly colourless, and their component granules larger, but their arrangement is still irregular. The threads subsequently unite here and there, not by every joint, and their connecting processes are usually nearer to one end of the joint than to the other. Such filaments are divaricated at the points of connection, rather less abruptly than in *genuflexa*, *t.* 1914. In some of the combined joints, the contents appear unchanged; in others they form a mass of larger granules than in the lines; and some have a large oval seed, which often swells the joint. Some traces of unchanged lines occur, now and then, in the fructifying joints.

We subjoin, at B, a bit of *C. bipunctata*, *t.* 1610, in its combined state, sent also by Mr. Borrer; by which, as he observes, it appears to be *Conjugata cruciata* of Vaucher.

CONFERVA genuflexa.

Combined Bent Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Light green. Filaments unbranched, slender, brittle, here and there bent, and combined by their angles. Joints cylindrical, thrice as long as broad. Colouring matter in central lines.

SYN. Conferva genuflexa. *Roth. Catal. v. 2. 199. v. 3. 268. Dillw. Conf. t. 6.*

. Conjugata angulata. *Vaucher Conf. t. 8.*

A NATIVE of fresh-water ditches and pools, for specimens of which we are obliged to Mr. W. Borrer.

It floats in dense, light- or yellowish-green masses, like several species already published in this work; but is known

7.

CONFERVA reticulata.

Netted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

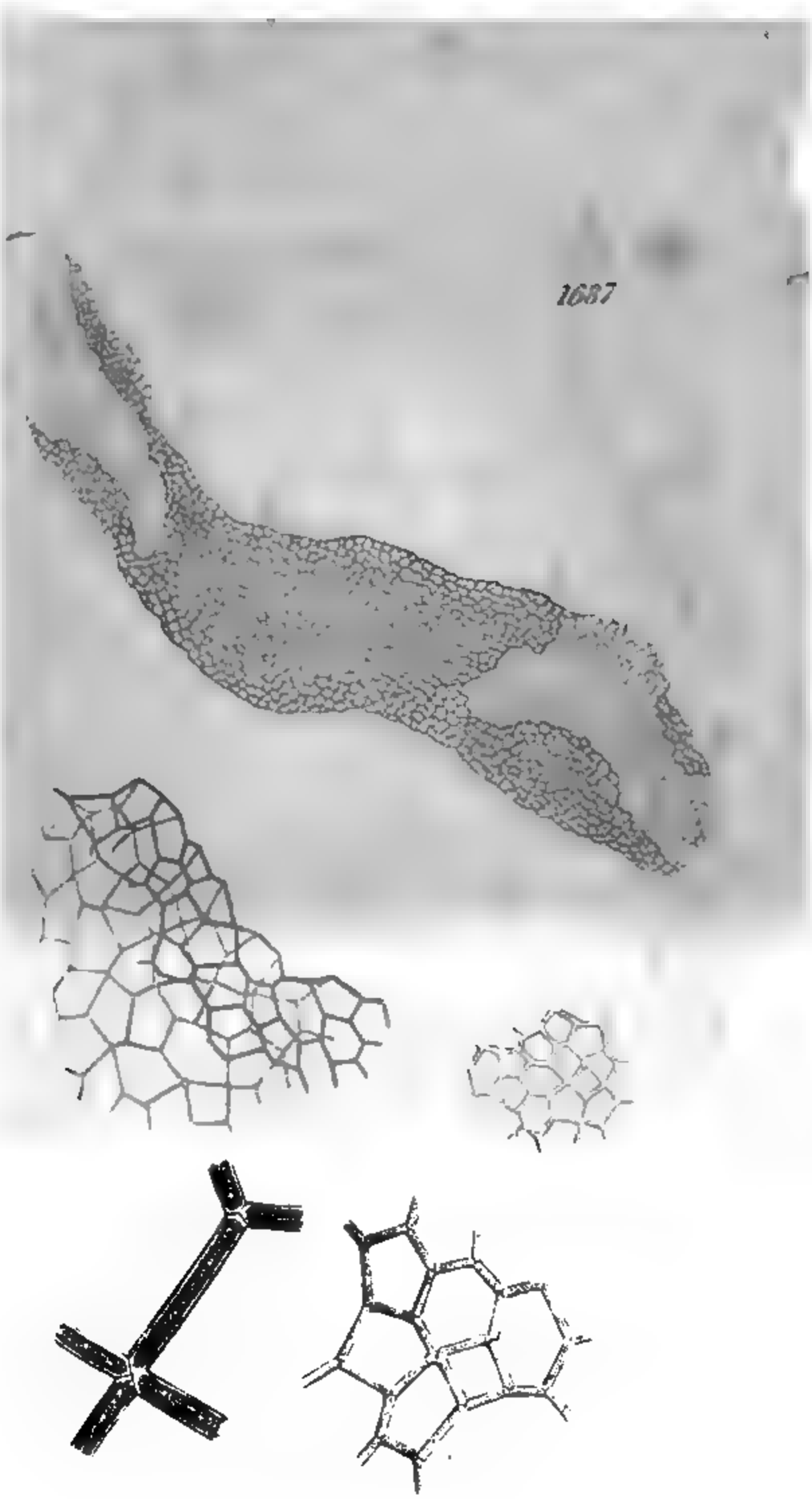
SPEC. CHAR. Filaments united into the form of a tubular net.

SYN. Conferva reticulata. *Linn. Sp. Pl.* 1635. *Huds.* 596. *With. v.* 4. 132. *Hull.* 331. *Relh.* 485. *Abbot.* 275. *Dicks. H. Sicc. fasc.* 14. 25. *Raii Syn.* 59. *Dill. Musc.* 20. *t.* 4. *f.* 14.

Hydrodictyum pentagonum. *Vaucher Conf.* 88. *t.* 9.

WE were long ago favoured by the Rev. Mr. Relhan with specimens of this curious plant from Cambridge. In the pond of the Physic-garden there it abounds from June to September. Mr. Borrer has also sent the same from ditches at New Hall in the parish of Henfield, Sussex, and the late Mr. Pitchford found it at Heigham, near Norwich. It grows loosely floating in still fresh water, but is not a very general species.

Nothing can be more remarkable than its form, which is that of a green, tubular, very delicate net, open at both ends. The threads are cylindrical, tolerably even; the meshes have 4, 5 or 6 sides, but 5 is the most common number. No one has observed the mode of its propagation except M. Vaucher, who found the old plants in a stationary condition during winter, but in spring the joints swelled, and gave out simple cylindrical masses of green matter. Each mass soon became a reticulated tube, which in 2 or 3 months' time grew to the full size of the parent plant. This species is therefore annual. Perhaps Dr. Roth and M. Vaucher are justified in making a new genus of it, but no one is yet enough acquainted with its family to decide absolutely on this point. We only attempt for the present a correction of the generic character of *Conferva.*



Jan Colley Published by the Ashmolean London

CONFERVA dissiliens.

Brittle-jointed Conferva.

CRYPTOGAMIA Algæ.

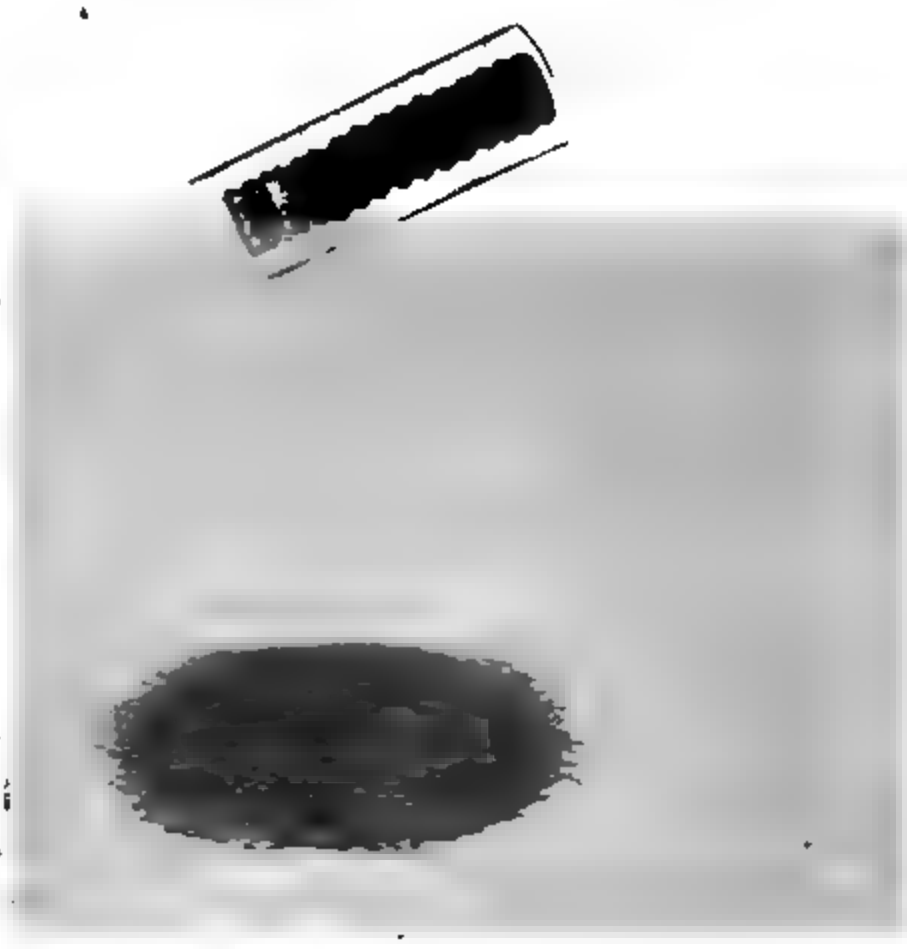
Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Simple, slender, straight, bright green, brittle. Joints twice as broad as long, white-edged, distinct and separable, with a double mass of internal granules.

Syn. Conferva dissiliens. *Dillw. Syn.* 51. *Conf. t.* 63.

Mr. BORRER finds the present species "in pools, on Henfield Common, and near Twineham, Sussex, always floating loose, in masses, mixed more or less with other *Confervæ*; never affixed to reeds, &c., as Mr. Dillwyn describes it."

This closely resembles our *C. bicolor*, *t.* 2298, under a moderate magnifier, even in being sometimes partially colourless; but differs altogether from it in structure, being one of those observed by Dr. Roth to have really separate joints, whose partitions are formed from the membrane which composes the tube itself; whilst in *bicolor*, and a few other unbranched species, as well as many of the branched ones, the thread or filament is a continued tube,



9.

CONFERVA bicolor.

Party-coloured Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Simple, slender, straight, bright green. Joints thrice as broad as long, white-edged, even; several of them together here and there empty, white and pellucid.

NOTWITHSTANDING all that has been done by the labours and acuteness of Mr. Dillwyn, there are still many discoveries probably to be made in the genus *Conferva*, and there are few botanists more likely to make them, and to establish new species on sure grounds, than Mr. W. Borrer, who found the present plant growing on stones in a rapid streamlet at Henfield, Sussex. Our intelligent correspondent observes that its straight habit is exactly like *C. dissiliens*, Dillw. t. 63, and the dimensions of the joints agree with that. The great peculiarity of our *bicolor* consists in an interruption of colour here and there, seen in the fresh filaments, and by no means indicating decay. This is the more remarkable, as each joint in which the colouring matter terminates, is rounded off externally, making the extremity, on either hand, of an oval spot, formed of an assemblage of more or fewer perfectly-coloured joints. We do not understand that the filaments are so brittle as in the *dissiliens*. Mr. Sowerby found them less than a thousandth part of an inch in diameter.

V

CONFERVA pectinalis.

Short-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments brittle, slippery, unbranched, tapering, compressed. Joints three times as broad as they are long, their central part opaque.

SYN. Conferva pectinalis. *Dillw. Conf. t.* 24.
C. bronchialis. *Roth. Catalect. v.* 1. 186.

FOR specimens of this curious *Conferva* we are indebted to Mr. W. Borrer, who found them at Hurst Pierpoint, Sussex, growing on decayed leaves in ditches in the month of March.

It is a very minute species, the stems being not above half an inch long, and from a thousandth to a four hundredth part of an inch in diameter, tapering gradually to a point, and compressed, not cylindrical. The joints are remarkably short, their breadth being full thrice as much as their length. They are pellucid and colourless except in their central part, which when fresh is occupied, as in other species of this tribe, with opaque green matter, in the form of an oblong transverse spot. These spots begin to break, or totally disappear, soon after the plant is taken from the water. Mr. Sowerby observed the situation of this green matter as we have described it, which is analogous to its appearance in other species, but Mr. Dillwyn found it lodged near the transverse partitions of the joints. Dr. Roth's description does not help us to remove this difficulty.

CONFERVA tæniæformis.

Tape-worm Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale green. Filaments capillary, simple, compressed. Joints quadrangular, thrice as broad as long, obscurely variegated, not striated; at length separating at one edge and divaricated.

FOUND by Mr. W. Borrer in pools of sea water left among the rocks by the tide at Beachy-head, Sussex, in February 1808. It forms parasitical tufts, scarcely a line high, on *Conferva fucoides*.

This is one of that singular tribe of minute *Confervæ*, of which we have figured two, *t.* 1761 and 1762, remarkable for being composed of compressed quadrangular joints, at length separating from each other transversely, only adhering by one or other of their corners. This species differs from all the rest, except *pectinalis* of Dillwyn, *t.* 24, in the extreme shortness of its joints in comparison with their breadth; but the *pectinalis* is a freshwater one, tapering to a point, and not separating so frequently as ours, neither are their green internal contents central as in the plant before us. The shortness of the joints in our plant much resembles those of some foreign species of *Tænia* or Tape-worm.

On burning this production we perceive so much of "an ancient fish-like smell," and so great an earthy residuum, that, but for the analogy of the plants above mentioned, we should think we had met with a coralline. This uncertainty prompts us the more to make the discovery known, that it may be further investigated, even at the risk of being charged with not knowing a coralline from a *Conferva*.

V


1028

CONFERVA Biddulphiana.

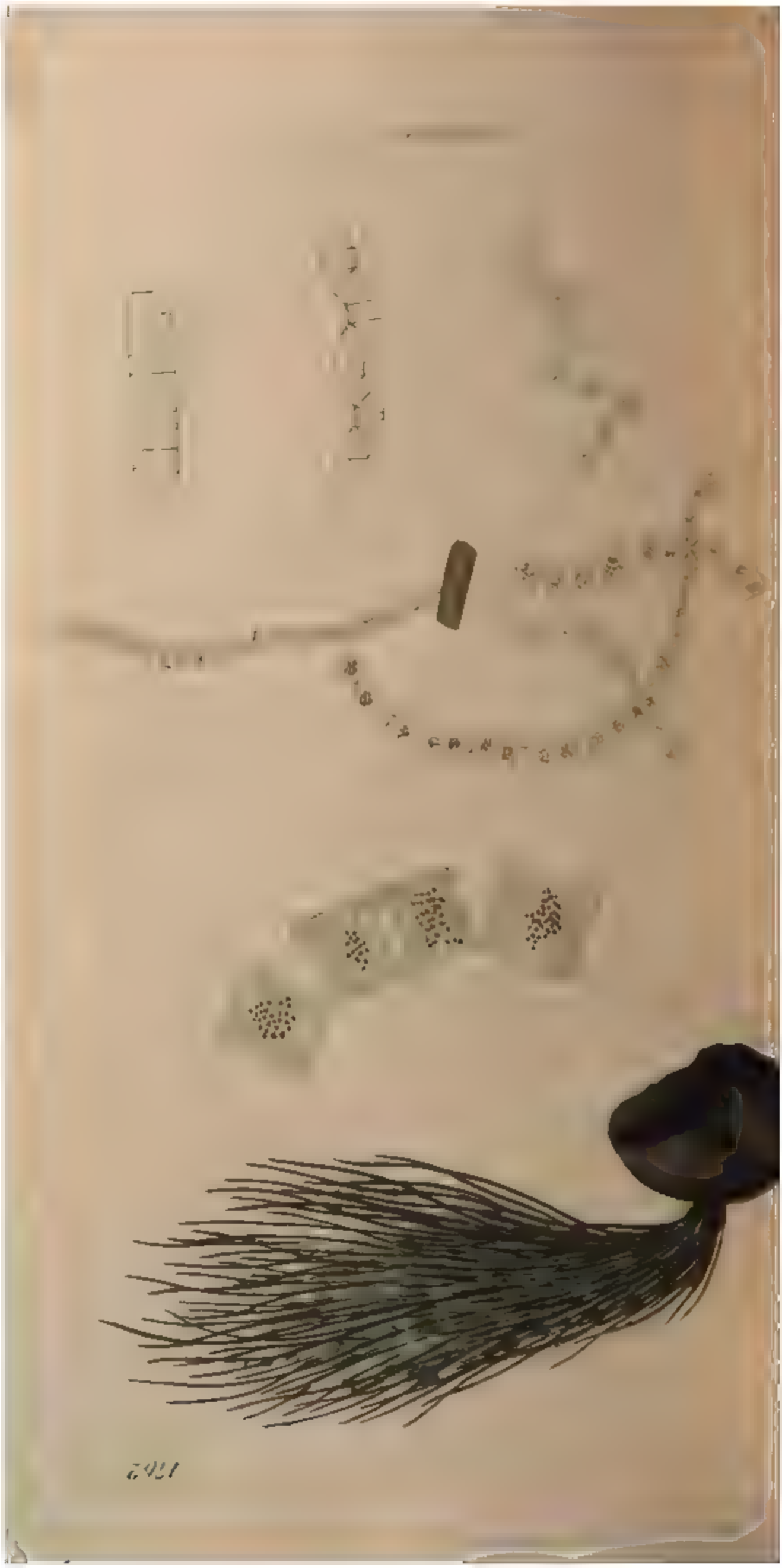
Disjointed Marine Conferva.

CRYPTOGAMIA Alge.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale green. Filaments capillary, simple, somewhat compressed. Joints quadrangular, longitudinally striated; at length separating at one of their edges and divaricated.

THIS curious plant, of which we can find no description, was found by Miss Susanna Biddulph in November and December last at Southampton, entangled with every marine production of the season. It serves to illustrate and confirm the nature of the *C. flocculosa* in our last plate. Its filaments are about half an inch long, nearly 3 times as thick as those of the last mentioned, and less compressed. The joints do not separate quite so regularly in an alternate manner, and more-



CONFERVA flocculosa.

Disjointed Fresh-water Conferva.

CRYPTOGAMIA Algæ.

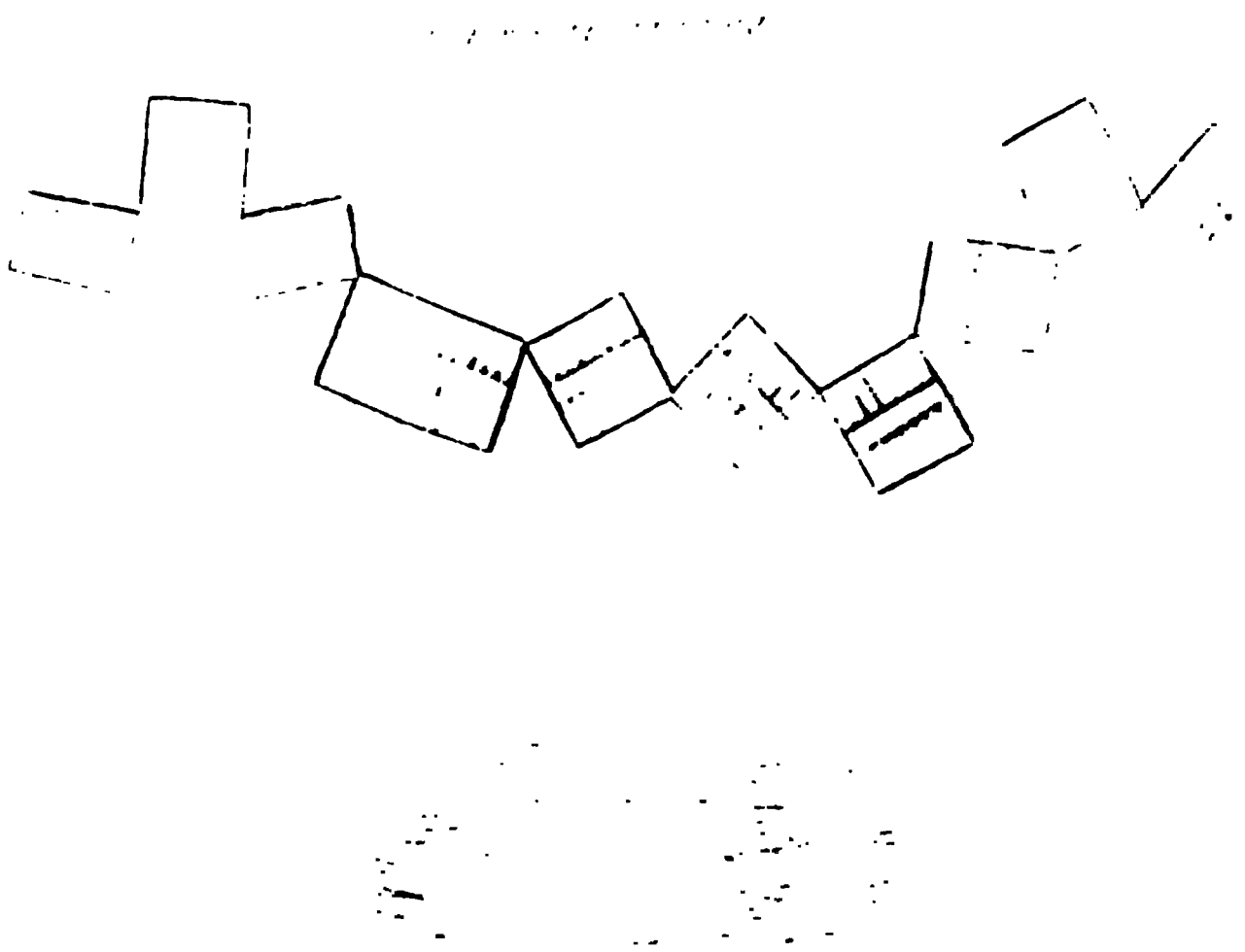
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

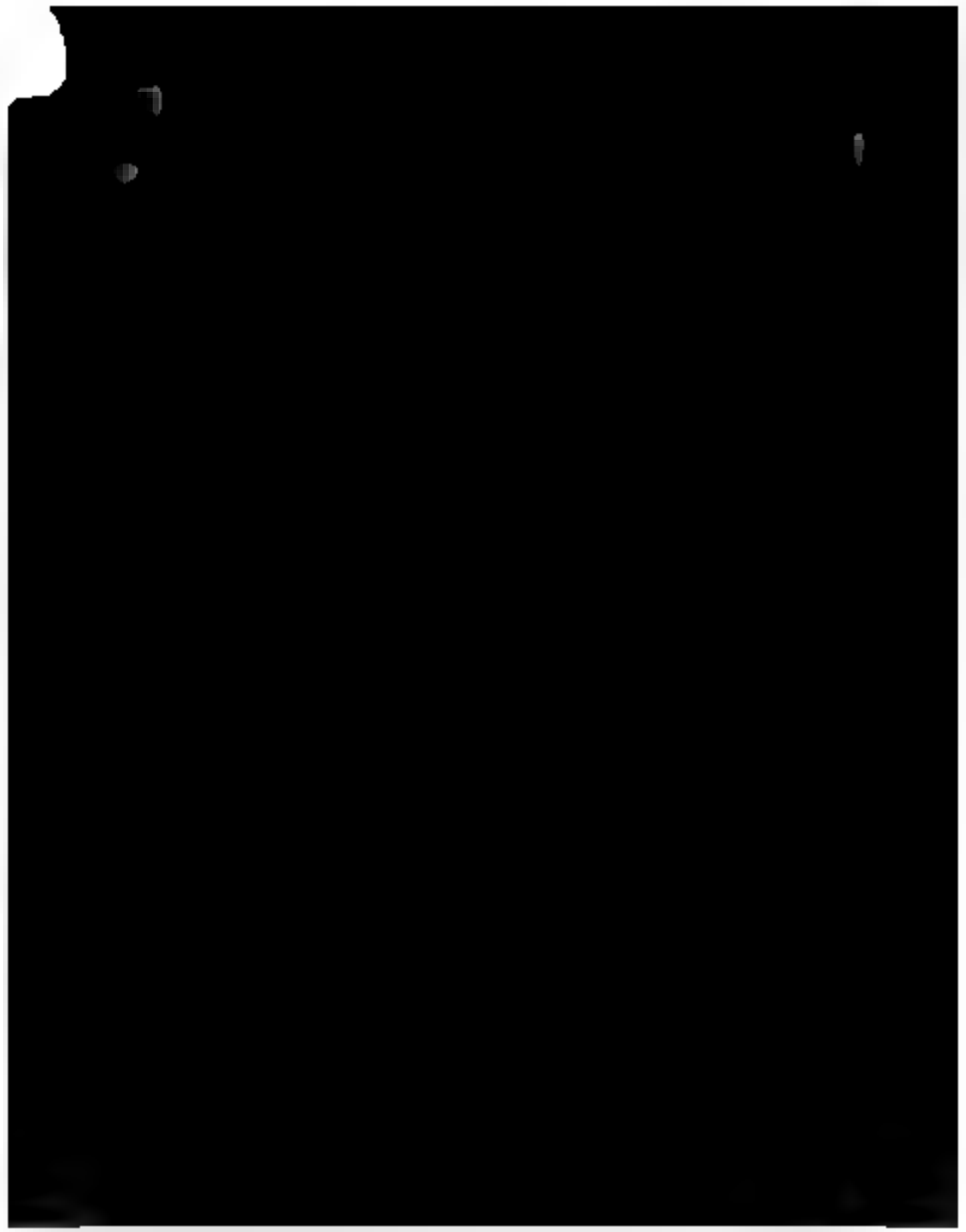
SPEC. CHAR. Green. Filaments capillary, mostly simple, compressed. Joints quadrangular, transversely striated; at length separating at their alternate edges, and divaricated.

SYN. Conferva flocculosa. *Roth. Catal. v.* 1. 192. *t.* 4. *f.* 4. *and t.* 5. *f.* 6. *Dillw. Conf. t.* 28.

FIRST discovered in England by Mr. Dillwyn and Mr. Joseph Woods junior, growing on decayed vegetables in a pool on Hampstead heath. We have received specimens from Norfolk by favour of Mr. Turner.

Well might its original discoverers mistrust their own eyes when they saw the wonderful structure of this plant. It forms light-green or brownish tufts about a quarter of an inch high, consisting of dense filaments, scarcely, if at all, branched, as fine as a human hair, compressed, at length separating at one of their edges only, (the other continuing attached to its neighbouring joint), so that the joints become divaricated in an alternate order. They are transversely and regularly striated, and marked besides with a central, colourless, pellucid, longitudinal line. Each joint is commonly about as broad as long. Of the fructification nothing is known.





CONFERVA scriqata.

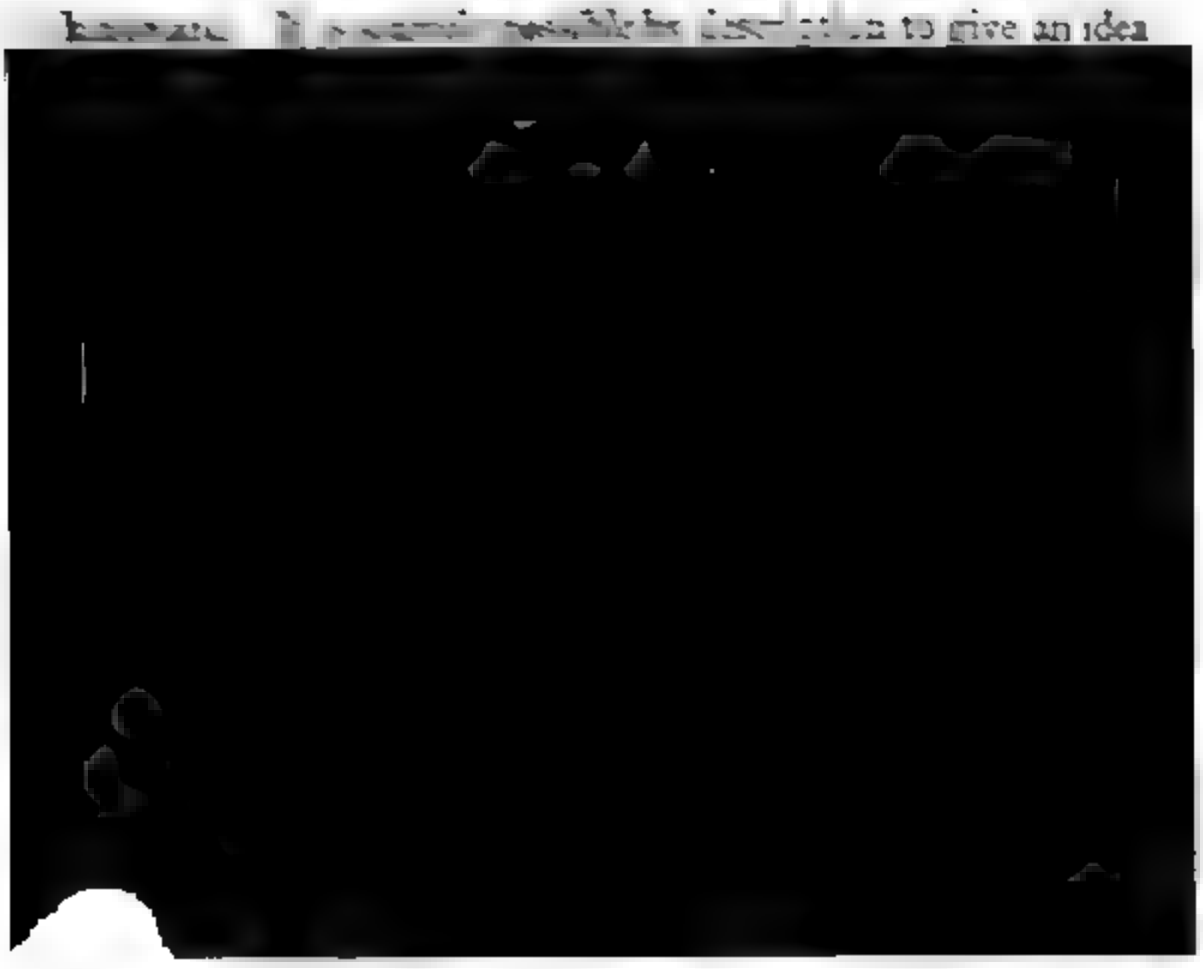
Unique Disjointed Conferva.

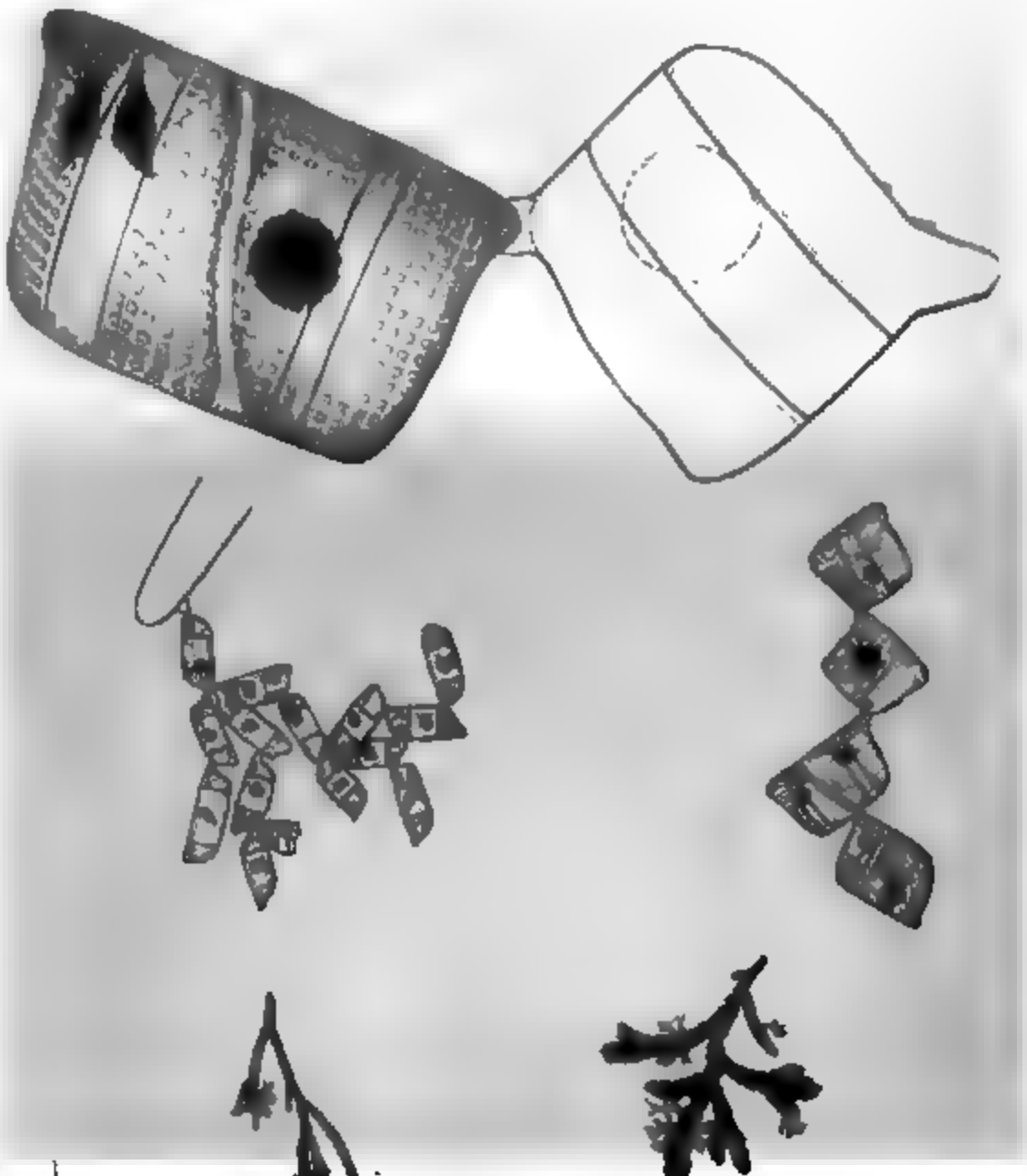
CONFERVAEA. Algæ.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Filaments branched, zigzag, compressed, joints aggregate: each group quadrangular, oblique, connected with the next by one corner. Seeds in lower central solitary dots.

We are indebted to Miss S. Rudolph for the discovery of this extraordinary *Confervа*, which is somewhat akin to what we have named *C. subtilissima*, n. 1362, but, though variable in bulk, always considerably larger than that species. It grows in small olive-brown tufts on *Fucus vesiculosus*, *fig.* 1, or *Conferva rectangularis*, *fig.* 2, both represented under an equal magnifying power in our plate, so that the latter seems most luxuriant. It presents scarcely any distinction to give an idea





16.

CONFERVA stipitata.

Stalked Striated Conferva,

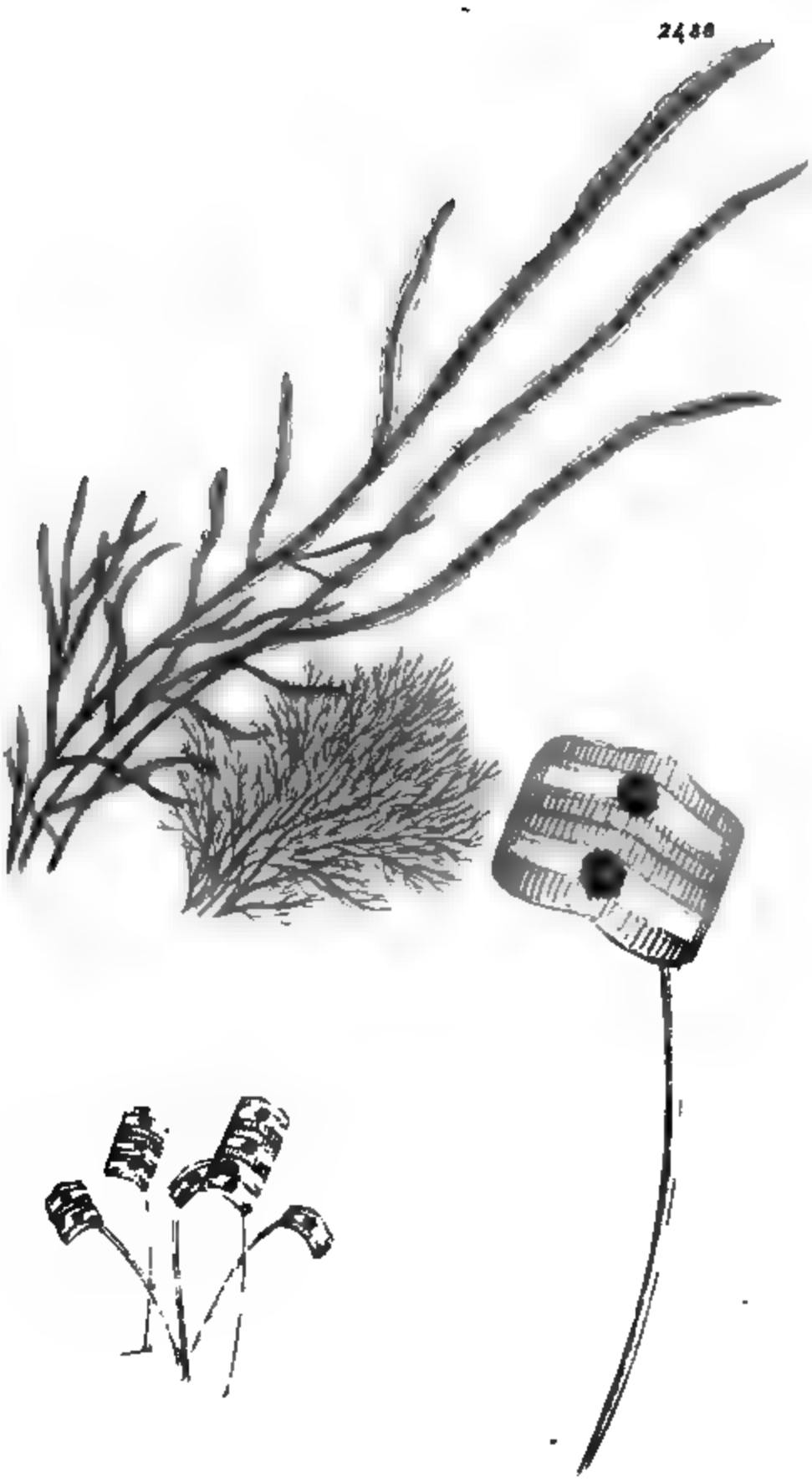
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Whitish. Frond of a very few close striated joints, twice as broad as long. Common stalk capillary, lateral, longer than the frond.

HAVING in vol. 26. t. 1869, figured a marine production, of whose vegetable nature we had then no doubt, we are induced to present our readers with another, whose great resemblance thereto will, we trust, prove our justification, though it excites a suspicion that both may belong to the animal kingdom. This suspicion arises from the scent of the present plant when burnt, which is like that of a coralline; the earthy residuum being also, as in that tribe, very abundant. With this caution, for the consideration of those who may follow us, we for the present refer this curious production to the vegetable kingdom.

It was found in July 1812, in clear rills which intersect the mud, on the coast near Southampton, by Miss S. Biddulph and Miss Hill, covering *Conferva ærea*, *rubra*, and others, as well as *Ulva compressa*, giving them an almost golden hue. When dried, the production in question assumes a pale, greyish, mucor-like aspect, and feels soft like cotton. When highly magnified the whole mass is found composed of innumerable distinct individuals, each supported on a very fine capillary stalk, and consisting of one, two, three or four close joints, twice or thrice as broad as long, rather pointed or angular upwards, longitudinally striated, with the interruption of a plain transverse band. In the centre is a round red mass of apparent seeds. If this, and our *C. obliquata*, *t.* 1869, be not *Confervæ*, they are probably the eggs of some marine insect, rather than a coralline. That they are both of the same nature nobody can doubt.


2488

17.

CONFERVA flacca.

Green Flaccid Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

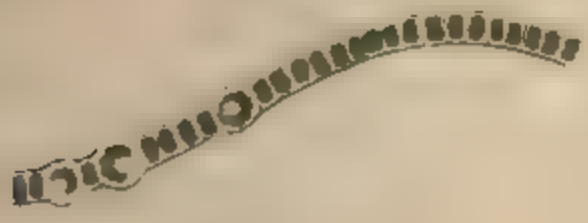
SPEC. CHAR. Green. Filaments unbranched, flaccid, curved, even. Joints all equal, nearly twice as broad as long; their partitions pellucid.

SYN. Conferva flacca. *Dillw. Conf. t.* 49.

MR. DILLWYN has observed this *Conferva* only near Swansea. Our specimens were gathered at Yarmouth by Mr. Turner and Mr. W. J. Hooker. It grows parasitically on *Fuci* in the sea; sometimes on wood exposed to the sea water, and is in perfection in the spring.

The fronds form dense bright-green tufts, and are simple, half an inch to an inch long, soft flaccid and slimy to the touch, by no means rigid, or erect when out of the water. They are very slender. When seen under a high magnifier they appear thread-shaped and even, their joints nearly, if not quite, twice as broad as long, with constantly white pellucid edges and partitions, but the latter are not at all contracted so as to give a beaded aspect to the filament. Some few joints are now and then found enlarged and as if discharging their green contents, which are very probably the seeds.

1943



18.

CONFERVA isogona.

Equal-jointed Verdigrise Conferva.

CRYPTOGAMIA Algæ.

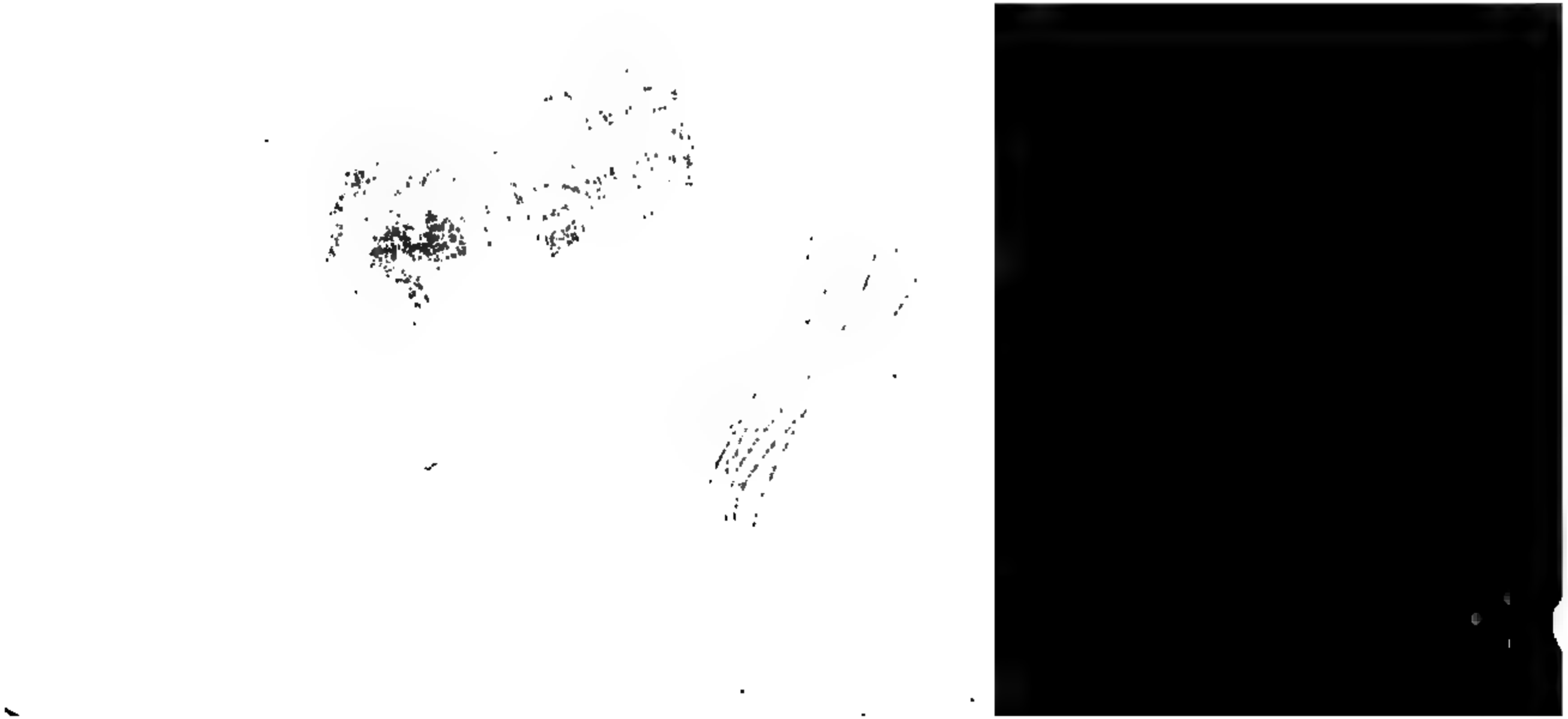
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, straight. Joints all equal, scarcely so long as broad; their partitions pellucid and constricted.

COMMUNICATED from the piers of Yarmouth jetty by Mr. Turner and Mr. W. J. Hooker in March last.

It appears to be a nondescript species, very nearly allied to *C. area*, t. 1929, but differing in the following particulars. Its size is very much smaller; its colour less inclining to glaucous; its joints are all uniform and equal, their edges by


1030



CONFERVA isogona.

Equal-jointed Verdigrise Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, straight. Joints all equal, scarcely so long as broad; their partitions pellucid and constricted.

COMMUNICATED from the piers of Yarmouth jetty by Mr. Turner and Mr. W. J. Hooker in March last.

It appears to be a nondescript species, very nearly allied to *C. ærea*, *t.* 1929, but differing in the following particulars. Its size is very much smaller; its colour less inclining to glaucous; its joints are all uniform and equal, their edges by far less disposed to become pellucid than in *ærea*, and never so but in decay. The interstices are indeed, as in that, colourless very soon after the plant is taken out of the water, and are at all times so constricted as to give a beaded aspect to the filament.

Published by T. Cadell Strand

20.

[2310]

CONFERVA flaccida.

Rusty Flaccid Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Rusty olive. Filaments unbranched, tapering, clustered, short, flaccid. Upper joints as long as broad; lower half as long.

SYN. Conferva flaccida. *Dillw. Syn.* 53. *t.* C.

FOUND by Miss Hill on the Devonshire coast, growing parasitically on *Fucus fibrosus*. Our specimens, gathered by Mr. W. Borrer, last May, in Shoreham harbour, Sussex, grew, in like manner, on *F. vesiculosus*.

The plant to which this *Conferva* is attached, seems clothed with a soft tufted shaggy coat, each tuft, scarcely an inch long, consisting of numerous, olive-brown, flexible, very

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CONFERVA flaccida.

Rusty Flaccid Conferva.

CRYPTOGAMIA Algæ.

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SPEC. CHAR. Rusty olive. Filaments unbranched, tapering, clustered, short, flaccid. Upper joints as long as broad; lower half as long.

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The plant to which this *Conferva* is attached, seems clothed with a soft tufted shaggy coat, each tuft, scarcely an inch long, consisting of numerous, olive-brown, flexible, very slender filaments, gently tapering from their base to a fine point. Mr. Dillwyn observed the substance to be in some degree gelatinous, adhering, though not very firmly, to either glass or paper as it dries. The joints in the lower part of each filament are about half as long as broad, the upper ones, indeed three fourths of the whole number, about twice as long.

Lamb's Elia. Published by Jo[illegible] [illegible]worthy London.

CONFERVA fusco-purpurea.
Brownish-purple Marine Conferva.

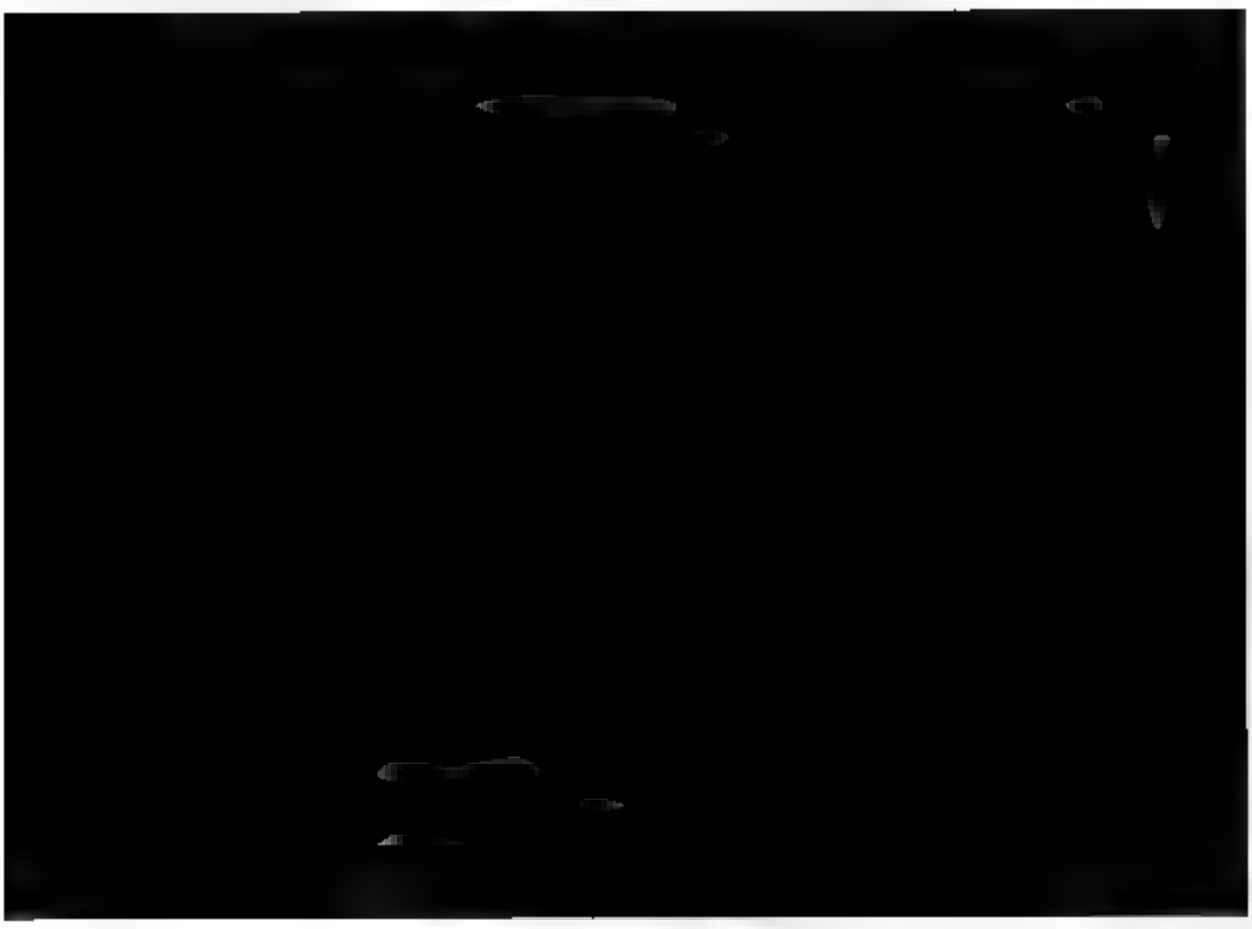
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish-purple. Filaments simple, very slender, entangled; swelling irregularly by age. Joints three or four times as broad as long, pellucid at each end, at length internally granulated.

SYN. Conferva fusco-purpurea. *Dillw. Conf. t.* 92.

SENT by Mr. W. Borrer from piles in the sea at Brighthelmstone. Mr. Dillwyn only has hitherto described it, from specimens gathered on calcareous submarine rocks by Mr. W. W. Young. It is said to cover such rocks in patches 2 or 3 square feet in extent, and conspicuous for their glossy



3 .

CONFERVA atro-purpurea.

Dark-purple Simple Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Deep purple. Filaments simple, at length swelling unequally. Joints about as long as broad, with a double transverse row of seeds in each.

SYN. Conferva atro-purpurea. *Roth. Catal. fasc.* 3. 208. *t.* 6. *Dillw. Conf. t.* 103. *Syn. n.* 57.

OUR specimens were communicated to our good friend Mr. Turner by Mr. Rashleigh, from Cornwall.

The root of this plant is found by the microscope to consist of a very evident tuft of fibres. Numerous fronds grow together, forming close, silky clusters, of a deep dull purple, an inch or two long. Each frond is quite simple, finer than the finest human hair, uniform in thickness till it swells in

CONFERVA nivea.

Snowy Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. White, branched, slender, somewhat rigid. Ultimate branches crowded, and often obscurely whorled. Joints dark, about as broad as long.

Syn. Conferva nivea. *Dillw. Syn.* 54. *t.* C.
Byssus lanuginosa. *Willan on Sulphureous Waters*, 10. *Dillw.*

We are obliged to William and James Backhouse, Esqrs. of Darlington for fine specimens of this *Conferva*, found growing on roots and dead leaves, in the sulphur spring at Middleton near that place, as mentioned in Dillwyn. The late ingenious Dr. Willan, it seems, has observed that hepatic gas is necessary to its growth. It appears to us moreover that there is a depo-

Pl. 1 as published by Jos. Lowndes London

CONFERVA nivea.

Snowy Conferva.

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SPEC. CHAR. White, branched, slender, somewhat rigid. Ultimate branches crowded, and often obscurely whorled. Joints dark, about as broad as long.

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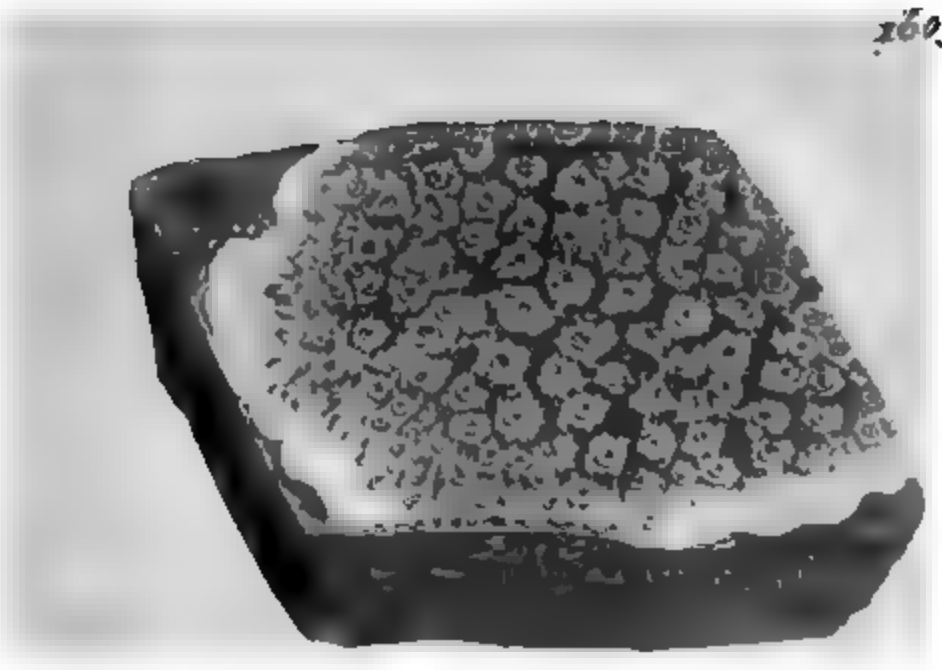
1609.



Tunbr. 1806 Published by Jos. Sowerby, London.

7.

BYSSUS aurea.

Golden Byſſus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant conſiſting of down or ſimple powder. *Fructification* unknown.

SPEC. CHAR. Filaments ſimple or branched, cloſely matted together, powdery, orange-coloured.

SYN. Byſſus aurea. *Linn. Sp. Pl.* 1638. *Hudſ. Fl. An.* 606. *With. Bot. Arr. v.* 3. 276. *Relh. Cant.* 446. *Sibth. Oxon.* 338.

B. aureus Derbienſis humifuſus. *Raii Syn.* 56.

B. petræa crocea, glomerulis lanuginoſis. *Dill. Muſc.* 8. *t.* 1. *f.* 16.

THIS Byſſus thrives beſt in a pure air, always in moiſt ſhady places; and although moſt abundant and luxuriant on the calcareous rocks and banks of Derbyſhire, yet it is found occaſionally on damp limeſtone buildings, and in chalk-pits in other parts of England. We procured it plentifully from a chalk-pit near Gad's-hill, Kent, in June laſt.

It often uniformly covers a ſpace of many inches in diame-

?8.

CONFERVA ilicicola.

Yellow Holly Conferva.

CRYPTOGAMIA Algæ.

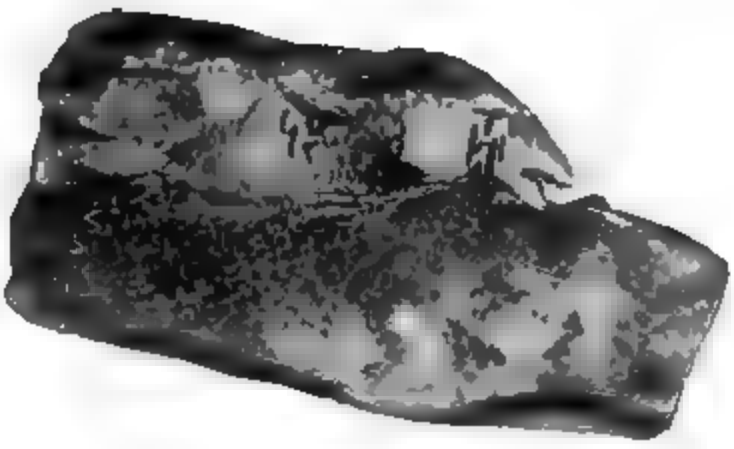
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Permanent tawny yellow. Filaments upright, tufted, alternately branched. Joints even, nearly as broad as they are long.

FOUND by Mr. Lyell on the smooth bark of hollies in the New Forest in the spring. Sometimes it invests specimens of *Lichen inclusus*.

The whole is of a deep, or rather tawny, yellow, which, after several months' experience, we have found not to change by keeping. The filaments form little tufts, scattered more or less distantly over the bark, and scarcely half a line in height. Each filament is alternately branched, equal in thick-

1639



29.

CONFERVA olivacea.

Tufted Olive Conferva.

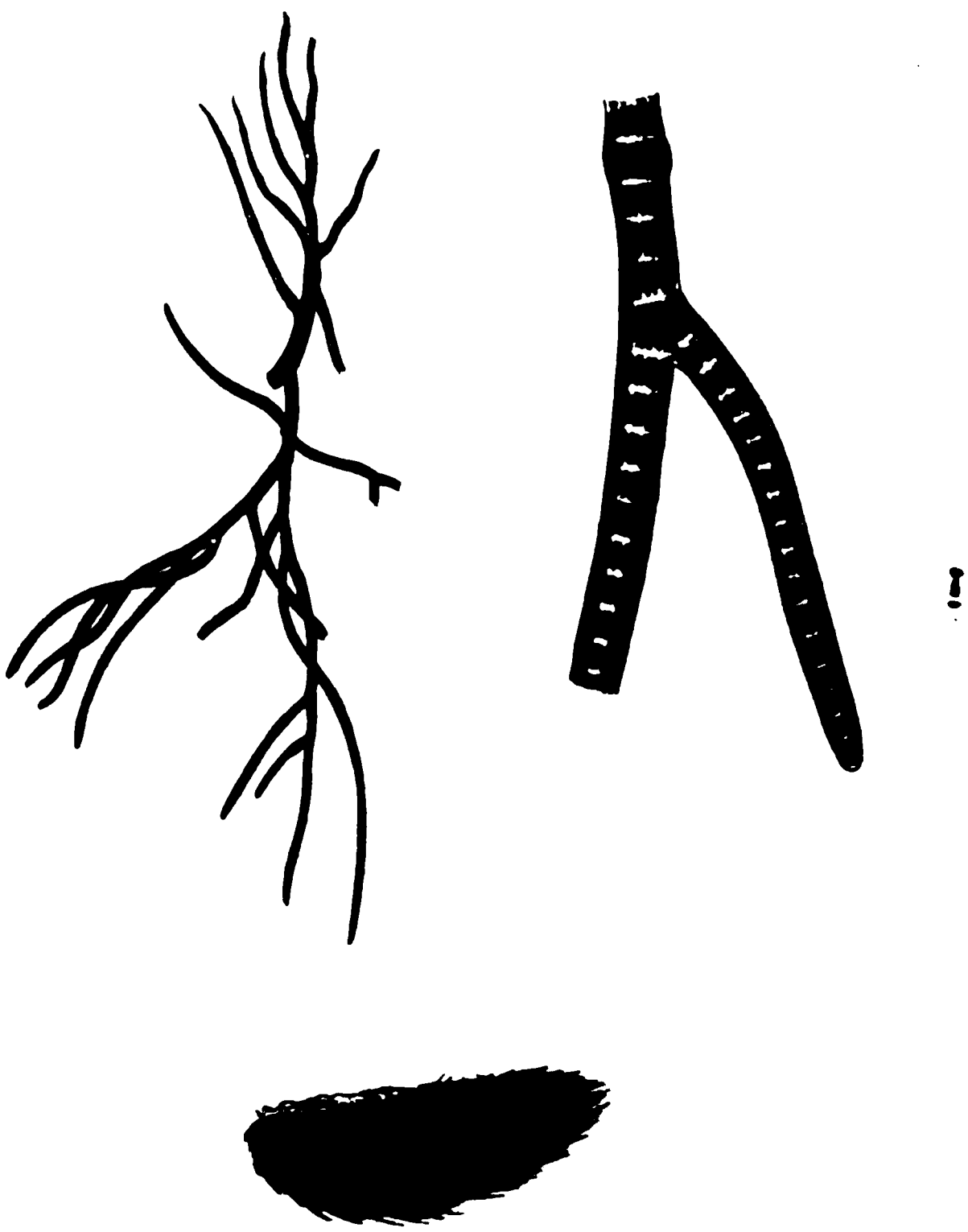
CRYPTOGAMIA Algæ.

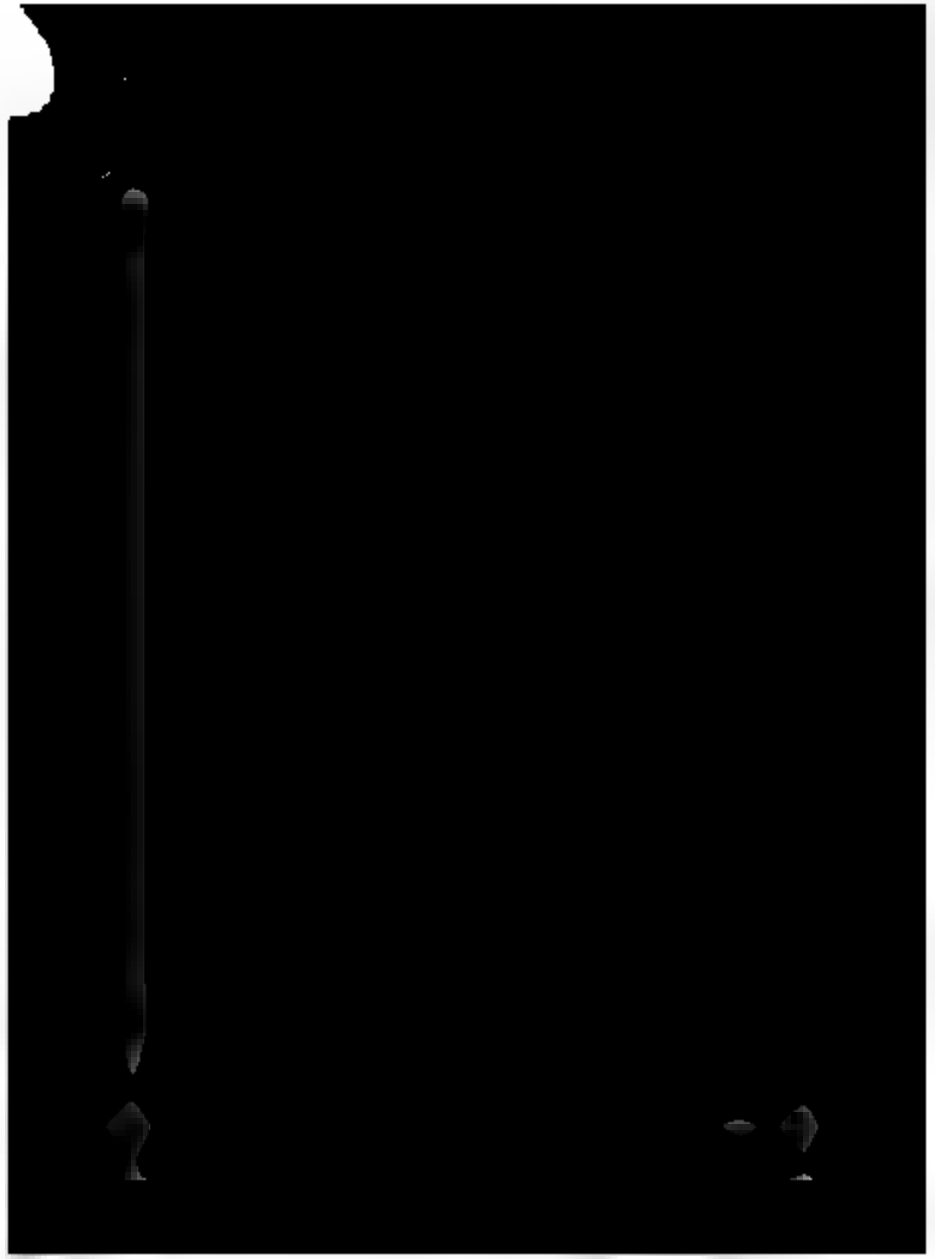
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish olive. Filaments branched, erect, tufted, entangled, somewhat rigid; branches numerous, scattered, mostly simple, obtuse. Joints rather broader than long.

SYN. Conferva olivacea. *Dillw. Syn. n.* 71. *t.* C.

MR. DILLWYN, as well as ourselves, received this new species of Conferva from Mr. Borrer and Mr. Hooker, who discovered it on marine rocks in Papa Westra, in the Orkneys





CONFERVA olivacea.

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SYN. Conferva olivacea. *Dillw. Syn. n.* 71. *t.* C.

MR. DILLWYN, as well as ourselves, received this new species of Conferva from Mr. Borrer and Mr. Hooker, who discovered it on marine rocks in Papa Westra, in the Orkneys. It is said to spread in patches over the rocks. The filaments are closely entangled, and, though so far erect as to form a sort of fine olive-brown turf, throw out branches in various directions. These branches are often, but not constantly, alternate, numerous, obtuse, mostly simple. Their joints scarcely so long as broad, and, after drying at least, their separations are white and pellucid. The filaments and branches are rather rigid, though extremely slender.

CONFERVA scutulata.

Target Conferva.

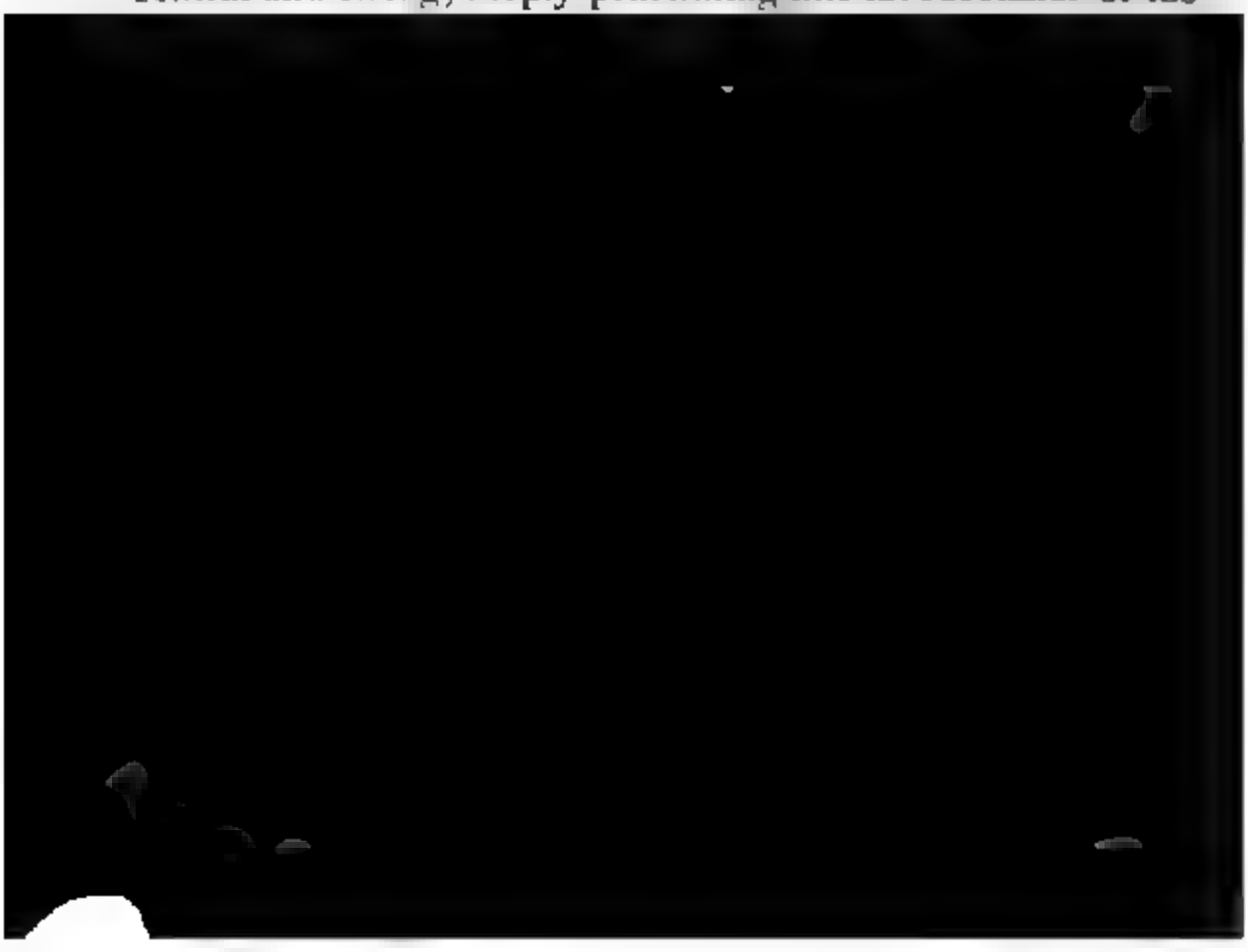
CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Olive brown. Filaments branched at the base, densely combined into a depressed peltate mass, rooted in the centre. Joints as broad as long.

FOR this new and very curious *Conferva* we are indebted to Mr. W. Borrer, who found it, growing parasitically upon *Fucus loreus*, on the beach at Brighthelmston and Shoreham, Sussex, in June 1811. Miss Hutchins however, as we understand, had previously sent specimens and drawings of the same species, from the Irish coast.

The *Fucus* is generally distorted at each spot where it nourishes one of these singular parasites, whose aggregate root is central and strong, deeply penetrating into the substance of the



CONFERVA cryptarum.

Green Cave Conferva.

CRYPTOGAMIA Algæ.

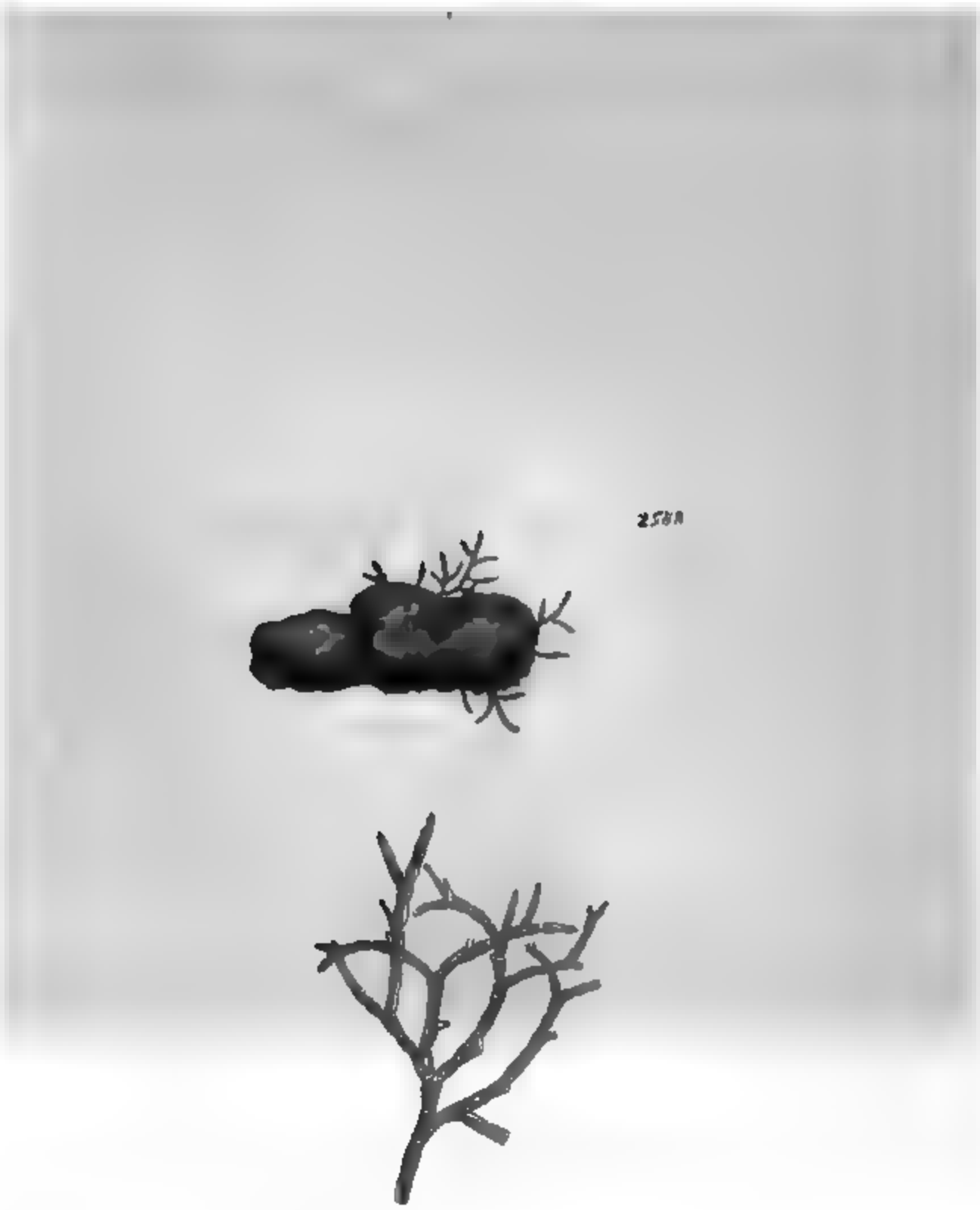
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments entangled, much branched, forked, divaricated, sharp-pointed, somewhat rigid. Joints slightly swelling, twice or thrice as long as broad.

SYN. Conferva cryptarum. *Dillw. Syn.* 59. *t.* D.

WE are induced to publish this species at present, not only because of its rarity, but to do away an idea, apparently suggested by the specific name, of its being the famous *Byssus cryptarum* of Linnæus; see his Tour in Lapland, vol. i. 47 and 55. This last is very distinct, much more slender, paler, and not jointed; at least not visibly so, under a magnifier which shows the joints of the plant before us very conspicuously.

C. cryptarum has hitherto been observed in caverns only, in various parts of Ireland. Miss Hutchins gathered our specimen in caves by the sea-side near Bantry. It grows in tufts, often intermixed with *Hypnum tenellum*, *t.* 1859, and though somewhat akin to *C. velutina*, *t.* 1556, in colour and structure, it is of at least five times as coarse a texture. The branches moreover are totally different in their forked, divaricated, and recurved form, and taper points. The dry specimen is rather rigid, elastic, and pellucid, the green colouring matter settling towards the minute partitions of the joints.



33.

CONFERVA velutina.

Green Velvet Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

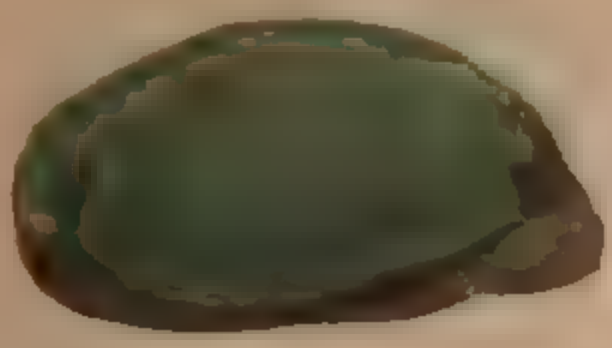
SPEC. CHAR. Green. Filaments entangled, upright, very short and slender, somewhat rigid, alternately branched. Joints slightly swelling, twice as long as they are broad.

SYN. Byssus velutina. *Linn. Sp. Pl.* 1638. *Huds.* 605. *With. v.* 4. 144. *Hull.* 307. *Relh.* 475. *Sibth.* 338. *Abbot.* 276. *Lightf.* 1001.

B. tenerrima viridis, velutum referens. *Dill. in Raii Syn.* 56. *Musc.* 7. *t.* 1. *f.* 14.

MR. DILLWYN has with the greatest propriety referred *Byssus aurea*, see *t.* 212, to *Conferva*, on account of its jointed structure, of which, as far as we know, he is the first discoverer. Mr. J. D. Sowerby having detected the same structure in the plant before us, it must be removed to the same genus.

This plant covers the earth in most shady places with a



BYSSUS nigra.

Black Rock Byſſus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant conſiſting of down or ſimple powder. *Fructification* unknown.

SPEC. CHAR. Filaments branched, matted, powdery, black.

SYN. Byſſus nigra. *Hudſ.* 606. *Lightf.* 1003. *With. v.* 4. 144. *Hull.* 307.

B. petræa nigerrima fibroſa. *Dill. Muſc.* 9. *t.* 1. *f.* 18. *Dill. in Raii Syn.* 57.

ON ſhady overhanging rocks in the Alpine parts of our iſland this *Byſſus* is often met with. It forms patches of various ſizes, perfectly black, and may eaſily be ſcraped from the ſtone. When gathered it cloſely reſembles a piece of felt ſcraped from a hat, both in texture and colour. It conſiſts of a mat of fine, ſoft, though elaſtic, branched filaments, often covered with an equally black ſooty powder, which is probably the ſeed. Yet we do not know that this powder is produced at any particular ſeaſon excluſively. The plant appears to be perennial, and, from ſome remarks we have made in its place of growth, very long-lived. We have no ſpecimens to decide accurately what Linnæus intended by his B. *antiquitatis*, but we can ſcarcely aſſent to Lightfoot's ſuppoſition, that he originally meant our *nigra*, though he, or Murray, in *Syſt. Veg. ed.* 13, has quoted the figure of Dillenius and deſcription of Weis which belong to it. Lightfoot's account is taken, with a little variation, from the author laſt mentioned.

Mr. Sowerby found this plant on ſand-ſtone rocks, near Tunbridge, in plenty. I have gathered it on the Pentland hills near Edinburgh, and about Winandermere, Weſtmoreland; but no where in ſuch perfection as at Hafod, Cardiganſhire, on a ſhady rock oppoſite the great ſtone of Maen Arthur, one of the wildeſt and moſt romantic ſpots in Wales. It is always found on a micaceous or quartzoſe ſtone.

702

35.

CONFERVA ocellata.

Eyelet Conferva.

CRYPTOGAMIA Alge.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Tawny brown, much branched, flaccid. Branches simple, mostly turned one way, obtuse. Joints twice as broad as long, internal, with a central dot.

Syn. Conferva ocellata. *Dillw. Syn.* 60. *t.* D.

COMMUNICATED by Mr. James Backhouse, from springs on the moors near Wolsingham, Durham.

This appears to be a very rare species, Mr. Dillwyn, so conversant with most of the genus, having never seen the present species more than once. It composes dense tufted masses of a dull brown, so cast when held against the light, in which position

Fab. 1.1 for p. Published by Jos. Jennings, London.

7.

CONFERVA muscicola.

Rusty Moss Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Rusty brown. Filaments upright, crowded, much and irregularly branched. Joints even, twice as broad as they are long.

MR. LYELL, the discoverer of *Conferva lichenicola, t.* 1609, has also detected this new species, growing on *Orthotrichum striatum*, on trees in the New Forest, Hampshire. We were, at first sight, much inclined to suppose it some uncommon luxuriance of the radical fibres, so conspicuous on the stems of many mosses; but, as Mr. Sowerby has ascertained it to proceed from the very disk of the leaf, we can no longer doubt

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CONFERVA lubrica,
Slippery Green Conferva,

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, gelatinous, very much branched; branches opposite, crowded, the ultimate ones very sharp, mostly alternate. Joints about as broad as long.

SYN. Conferva lubrica. *Dillw. Conf. t. 57. Syn. n. 89.*

COMMUNICATED by Mr. Turner from a rivulet at Lound near Yarmouth, where Mr. Dillwyn informs us it was first discovered by himself, and that he has since found it, much more abundantly, near Swansea.

It grows on wood or stones, in floating masses, from a span to a foot long, of a fine slightly glassy green, very

CONFERVA mutabilis.

Changeable Gelatinous Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Main stems subdivided, almost colourless. Branches darker, opposite, much branched, tufted, gelatinous in decay. Joints broader than long.

SYN. Conferva mutabilis. *Roth. Catal. v.* 1. 197. *t.* 4. *f.* 6. and *t.* 5. *f.* 1. *Dillw. Conf. t.* 12. *Relh.* 485.
C. gelatinosa γ. *Huds.* 598. *With.* 135, *var.* 3. *Hull.* 332.
C. stagnalis, globulis virescentibus mucosis. *Dill. Musc.* 38. *t.* 7. *f.* 44. *Turn. Tr. of L. Soc. v.* 7. 108.

WE received this a great many years ago from the Rev. Mr. Bryant of Heydon, Norfolk, by the name of "*C. hypnoides* of Sir Joseph Banks," and we have specimens from Switzerland, gathered by M. Du Cros, with the same denomination on the authority of Mr. Dickson. This name, though excellent, must of course give way to the printed one in the valuable work of Dr. Roth, as that is no less unexceptionable, and is moreover sanctioned by Mr. Dillwyn, to whom we are obliged for fixing the synonym of Dillenius.

This does not seem to be a rare plant in fresh-water ditches throughout England, but has been neglected as a variety of *C. gelatinosa*, *t.* 689, from which it is very distinct in the structure, and especially the elongated points, of its fine lateral branches, which turn to colourless jelly in decay. It is also much paler in hue. The main stems are remarkably pale and pellucid, what little colour they have collects in the middle of each joint, as in many others of the genus, nor do we conceive that colour to consist of seeds, which, as Mr. Dillwyn observes, are more likely to resemble those of *C. gelatinosa*. All the joints, but especially those of the dark tufted branches, are broader than long, and a little contracted where they unite together.


1740

CONFERVA gelatinosa.

Frog-spawn Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Branches beaded, with whorled compound fibres bearing the fruit and very gelatinous.

SYN. Conferva gelatinosa. *Linn. Sp. Pl.* 1635. *Hudſ.* 597. *With. v.* 4. 134. *Hull.* 332. *Relh. Suppl.* 2. 21. *Sibth.* 337. *Abbot.* 275.

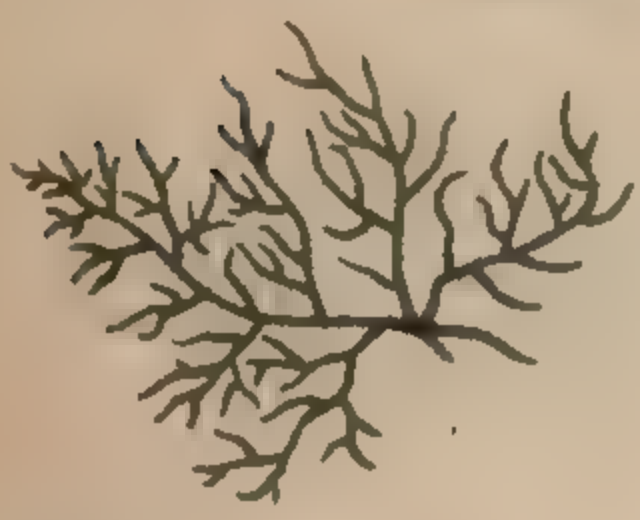
C. fontana nodosa, spermatis ranarum instar lubrica, major et fusca. *Dill. Musc.* 36. *t.* 7. *f.* 42. *Dill. in Raii Syn.* 62.

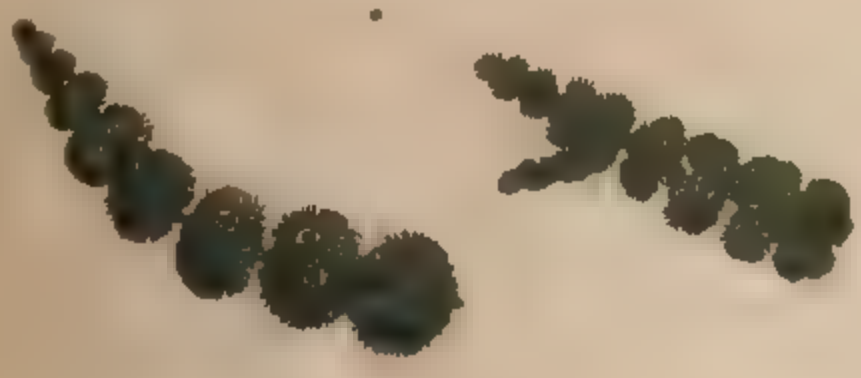
Chara batrachosperma. *Weis Gott.* 33. *t.* 1.

GATHERED in a clear rivulet at Hopton, Suffolk, near Yarmouth, by Mr. D. Turner last April. We have found it on Hindolveston common, Norfolk, and in other places, generally in the summer. It is always immersed in the most pellucid waters, growing attached to pebbles, and flowing with the stream.

The whole plant is extremely slimy and slippery to the touch, and very tender; its colour dark green; in some varieties paler, in others bluish. Stem very much branched, and apparently composed of thick-set bead-like joints, each of which is in fact a wheel of minute compound filaments, every compound filament containing one fruit.

Mr. Turner justly observes that Weis, who has given a most elaborate description and excellent figure of this plant, would never have thought it a *Chara* if that genus had been then well known, or if he had, by a residence on the sea shore, been acquainted with the fructification of real *Confervæ*; see C. *byssoides*, *t.* 547. Mr. Turner suspects that Hudson's variety β, *fig.* 43 of Dillenius, may be a distinct species, the ramification, when examined under a microscope, being dissimilar. —The stem of C. *gelatinosa*, highly magnified, appears to be an almost colourless transparent membrane, jointed like most of the genus.





Sylv.

[2350]

CONFERVA crispata.

Branching Cross-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, branched, crisped and entangled. Branches alternate, copious, acute. Joints even, several times longer than broad, alternately contracted when dry.

SYN. Conferva crispata. *Roth Catal. v.* 1. 178. *Dillw. Conf. t.* 93. *Syn.* 64. *n.* 94.

COLLECTED in pools in Sussex, July 3, by Mr. W. Borrer, who had some doubts respecting Dillwyn's synonym. The description of Roth indeed best agrees with our plant as to colour, which he says is, in summer, an extremely bright green, at which season the plant floats in large masses, including many air-bubbles. In autumn and winter it becomes of a duller or darker hue, and sinks to the bottom.

The filaments are about a foot long, or more, densely entangled, rather tough, destitute of gloss, curled and crisped, especially when old, not disentangled without difficulty or injury. We find the ultimate branches, at least, copious, not distant; their points very acute. The joints in the principal parts of the plant are perfectly even and cylindrical, four or five times as long as broad. By drying they become elliptical and compressed, decussating each other alternately, as in the true *C. capillaris* of Linnæus, hereafter, as we hope, to be described, which the present species also much resembles in general aspect, whether recent or dried, but the *capillaris* is simple.

40.

CONFERVA flavescens.

Yellowish-green Conferva.

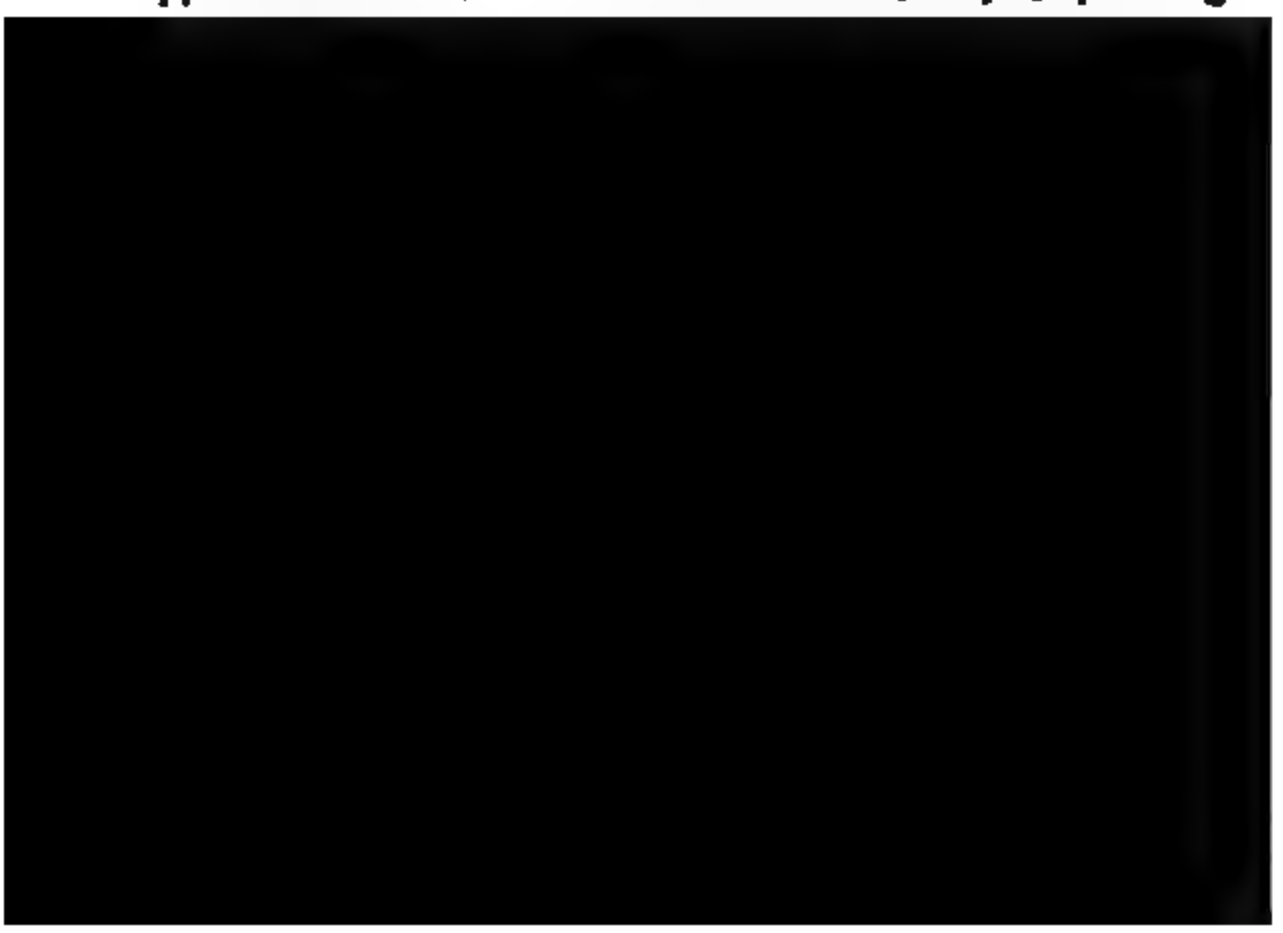
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Yellowish-green, repeatedly branched, even; ultimate branches alternately two-ranked, short. Joints cylindrical, many times longer than broad.

SYN. Conferva flavescens. *Roth. Catal. fasc.* 2. 224. *fasc.* 3. 241. *Dillw. Syn. n.* 96. *t.* E (not D).

GATHERED by Mr. W. J. Hooker in ditches at Cley, and by Mr. Turner in salt-water marshes about Yarmouth. The tufts are large, erect, a span high, of a light yellowish green. The plants crowded, very much and repeatedly branched throughout, slender, capillary, even; the larger branches opposite or forked; the ultimate ones short, simple, spreading



ab.

CONFERVA fracta.

Broken Divaricated Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, much branched and entangled. Branches scattered, divaricated. Joints twice as long as broad, cylindrical; at length elliptical. Capsules roundish, sessile.

SYN. Conferva fracta. *Fl. Dan. t.* 946. *Dillw. Conf. t.* 14. *Syn.* 65. *n.* 97.

C. vagabunda. *Linn. Sp. Pl.* 1637. *Huds.* 601. *With. v.* 4. 139. *Hull* 334.

C. divaricata. *Roth. Catal. v.* 1. 179. *t.* 3. *f.* 1.

C. marina trichoides, lanæ instar expansa. *Dill. in Raii Syn.* 60. *Musc.* 30. *t.* 5. *f.* 32.

DILLENIUS had this *Conferva* first from Sussex, where Mr. W. Borrer finds it common in marshes, pools and ditches; nor does it occur near the sea only, Mr. Dillwyn having observed the same species in the Lock fields near London, bearing lateral globular sessile tubercles or capsules. These we have not met with. To this author we are obliged for settling the Linnæan synonym, which depends entirely on Dillenius, and which we should now have restored, as the true specific name, had it been better latin, or more expressive, than it is. In such cases convenience, sense and propriety, may surely, at the discretion of fit judges, take place of rigid authority.

The filaments float, in densely entangled masses, on the surface of salt-water ditches, or stagnant pools of any kind. They accord, in general resemblance, with *C. flexuosa, t.* 1944, and *flavescens, t.* 2088, but the branches are not regularly two-ranked, nor the joints of so long a proportion. The whole plant is very much divaricated, somewhat rigid, and many of the joints following one another in different parts of the main branches, become tumid and elliptical, as if pregnant with seeds, or perhaps with what is equivalent to pollen, if we may form any guess, by analogy, from *t.* 2337.

47.

CONFERVA flexuosa.

Green Zigzag-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Frond capillary, once or twice branched, zigzag. Ultimate branches alternately two-ranked, spreading. Joints cylindrical, elongated, with obsolete partitions.

SYN. Conferva flexuosa. *Fl. Dan. t.* 882. *Dillw. Conf. t.* 10.

FOUND long ago by Mr. Turner at Yarmouth; and by Mr. W. J. Hooker in salt ditches at Cley, Norfolk, in April 1807.

The filaments form entangled green masses at the bottom of the water; the principal ones being once or twice branched, finer than a hair, of a dark blackish green. The ultimate


1041

48.

CONFERVA diffusa.

Diffuse Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, much branched, diffuse, somewhat zigzag; the ultimate branches frequent, short, blunt. Joints four times as long as broad, of an uniform colour, with pellucid partitions.

SYN. Conferva diffusa. "*Roth. Catal. fasc.* 2. 207. *t.* 7." *Dillw. Syn.* 65. *Conf. t.* 21.

COLLECTED in the sea at Brighthelmstone by Mr. W. Borrer. It springs from a minute callous base, forming loosely entangled, dullish green, tufts, from 2 to 6 inches long, rather rigid and harsh to the touch. The filaments are as thick as horse-hair, branched from the very bottom, but not very copiously nor regularly, their branches zigzag, divaricated and spreading amongst each other; being often, as Mr. Dillwyn remarks, as much entangled as *Fucus plicatus*. The ultimate branches are numerous, short and simple, obtuse, occasionally alternate or following each other, all originating, as in other species, from the partitions, which are narrow, white and pellucid. The joints are even (except when dried) 3 or 4 times as long as broad, of an uniform green, except that when investigated, against the light, with a micro cope, the thickness of the white skin gives them the appearance of a pellucid border, caused by some shrinking of the green mass within.

CONFERVA rupestris.

Green Rock Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull green. Filaments much branched, clustered, rigid, straight, obtuse. Joints elongated, even. Partitions colourless.

SYN. Conferva rupestris. *Linn. Sp. Pl.* 1637. *Huds.* 601. *With. v.* 4. 140. *Hull.* 334. *Relh.* 485. *Dillw. Conf. t.* 23.

C. marina trichodes ramosior. *Dill. Musc.* 28. *t.* 5. *f.* 29.

C. marina trichoides, seu muscus marinus virens tenuifolius. *Dill. in Raii Syn.* 60.

THIS is a very common species, and familiar to most observers of marine plants. It occurs frequently on the sea shore, growing in dense tufts upon rocks, pebbles, or dead shells, and is known by its dull verdigrise (not olive) green, and a slight rigidity or harshness when handled.

The stems are from 3 to 6 inches long, very much and repeatedly branched, slender and even; the branches mostly alternate, erect and straight; sometimes opposite or clustered. Joints cylindrical, at least twice or thrice as long as they are broad, often much more. At each end they are pellucid and colourless. In drying the green matter often collects most at the upper end of each joint, which so becomes swelled. The fructification seems not to have been discovered.

What Hudson and his followers have made a variety of this, and which is figured by Dillenius, *t.* 5. *f.* 28, was judged by Mr. Turner when at Oxford to be a new species, which the account of it in Dillenius abundantly justifies.

CONFERVA glomerata.

Green Cluster Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, very much branched. Branches alternate, clustered, pencil-shaped; the ultimate ones directed to one side. Joints cylindrical, five times as long as broad; their partitions pellucid.

SYN. Conferva glomerata. *Linn. Sp. Pl.* 1637. *Huds.* 602. *With. v.* 4. 140. *Hull.* 334. *Lightf.* 993. *Sibth.* 337. *Abbot.* 275. *Dillw. Conf. t.* 13. *Fl. Dan. t.* 651. *f.* 2.

C. fontalis ramosissima, glomeratim congesta. *Dill. in Raii Syn.* 59. *Musc.* 28. *t.* 5. *f.* 31.

C. viridis capillacea, brevioribus setis, ramosior, sive C. minor ramosa. *Moris. v.* 3. 644. *sect.* 15. *t.* 4. *f.* 2.

FOUND in very clear springs and rivulets in various places. Mr. Borrer sent us the specimen here represented from Sussex.—The whole plant is of a bright shining green, very smooth and slippery, but not viscid or gelatinous to the touch. The principal stems, which are several inches long, send off numerous threadshaped branches, and these bear fine clustered subdivisions, ultimately terminating in ranges of little short branches all directed one way, which give the plant a peculiar clustered or tuft-like aspect. The joints are very even, about 5 times as long as broad, with clear colourless partitions. Fructification hitherto unknown. Mr. Dillwyn presumes it, from analogy, to be capsular.—We were rather puzzled by this gentleman's criticism of Linnæus's Species Plantarum, the second edition of which is quite correct in quoting Dillenius, as above, though in the first, by an error of the press, *f.* 34 is put for 31. Mr. Dillwyn, it seems, has been using Reichard's edition, in which is the gross error, justly reprehended by him, of citing t. 5. f. 32, and f. 28, 29, none of which has any agreement with this plant. So important is it to study authentic editions!


Fig 2

CONFERVA lætè-virens.

Light-green Bushy Conferva.

CRYPTOGAMIA Algæ.

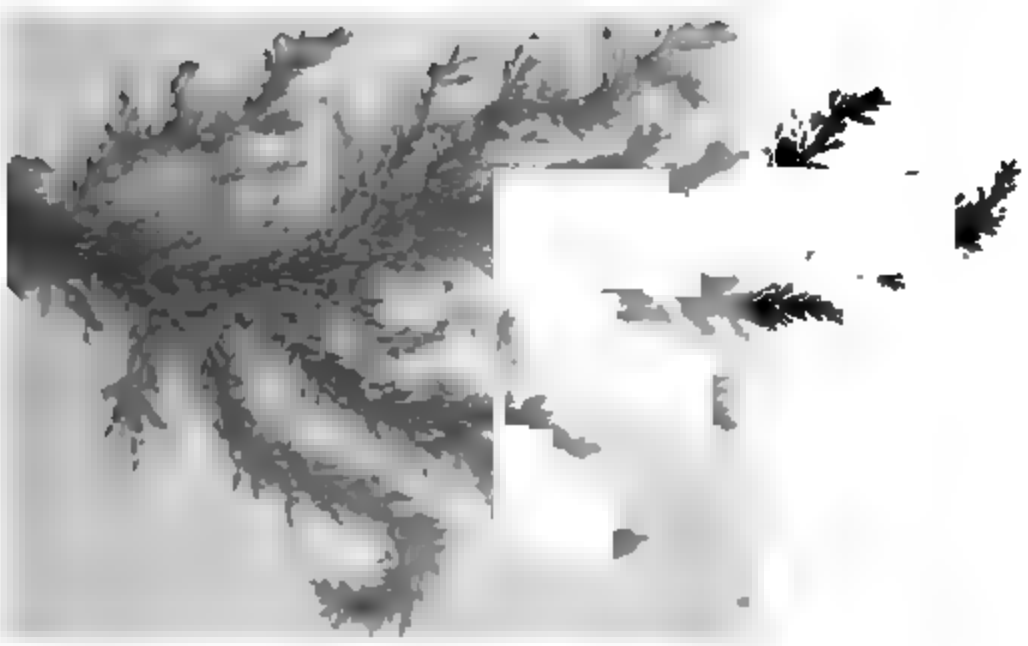
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Bright pale green, much branched, rather rigid; ultimate divisions pointing to one side. Joints thrice as long as broad, with pellucid partitions.

SYN. Conferva lætè-virens. *Dillw. Conf. t.* 48. *Wood in Rees's Cyclop. n.* 72.

SENT by Mr. W. Borrer, in July last, fresh from the sea at Brighthelmston. It was first observed and described by Mr. Dillwyn, who finds it very common on the shores of South Wales, growing either on other sea plants or on stones, and often nearly filling the basons among the rocks, where "its light green colour, and bushy mode of growth," distinguish it.

The fronds float horizontally, and are very much branched and tufted, somewhat rigid; their fine ultimate divisions pointing, many together, all to one side, then several to the other side. The joints are about thrice as long as broad, cylindrical, with pellucid partitions. No fruit has been as yet detected.



[2327]

CONFERVA albida.

Whitish Cottony Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Greenish white, opaque. Filaments in dense tufts, much branched, capillary; branches clustered, about four together; their divisions opposite, zigzag; ultimate ones somewhat parallel. Joints even, four times as long as broad.

SYN. Conferva albida. *Huds.* 595. *With. v.* 4. 131. *Hull.* 331. *Dillw. Syn.* 32 and 66. *n.* 104. *t.* E.

C. marina tomentosa, tenerior et albicans. *Dill. in Raii Syn.* 59. *Musc.* 19. *t.* 3. *f.* 12.

BY a specimen from the Dillenian herbarium, Mr. Dillwyn has verified the synonyms of this species, and we are enabled, by the favour of Mr. W. Borrer, to exhibit it more completely than it has ever yet been, as well as to subjoin the elongated and less spreading variety, found by himself on the Sussex coast; see *Dillw. Syn.* 66.

This is probably not a rare species. Miss Hutchins observed it in June and July, in Bantry bay, as Mr. Borrer did at Brighthelmston. Its cotton-like opacity, or freedom from all gloss, is remarkable, and the dense tufted habit, caused by the copious spreading subdivisions, which are interwoven into close masses, strengthens the resemblance to that substance, as does the white colour it soon assumes, though greenish in a young and healthy state. Our specimens well answer to the characters given in the valuable work on *British Confervæ*, as well as in Hudson's *Flora*.

CONFERVA pellucida.

Pellucid Three-branched Conferva.

CRYPTOGAMIA Algæ.

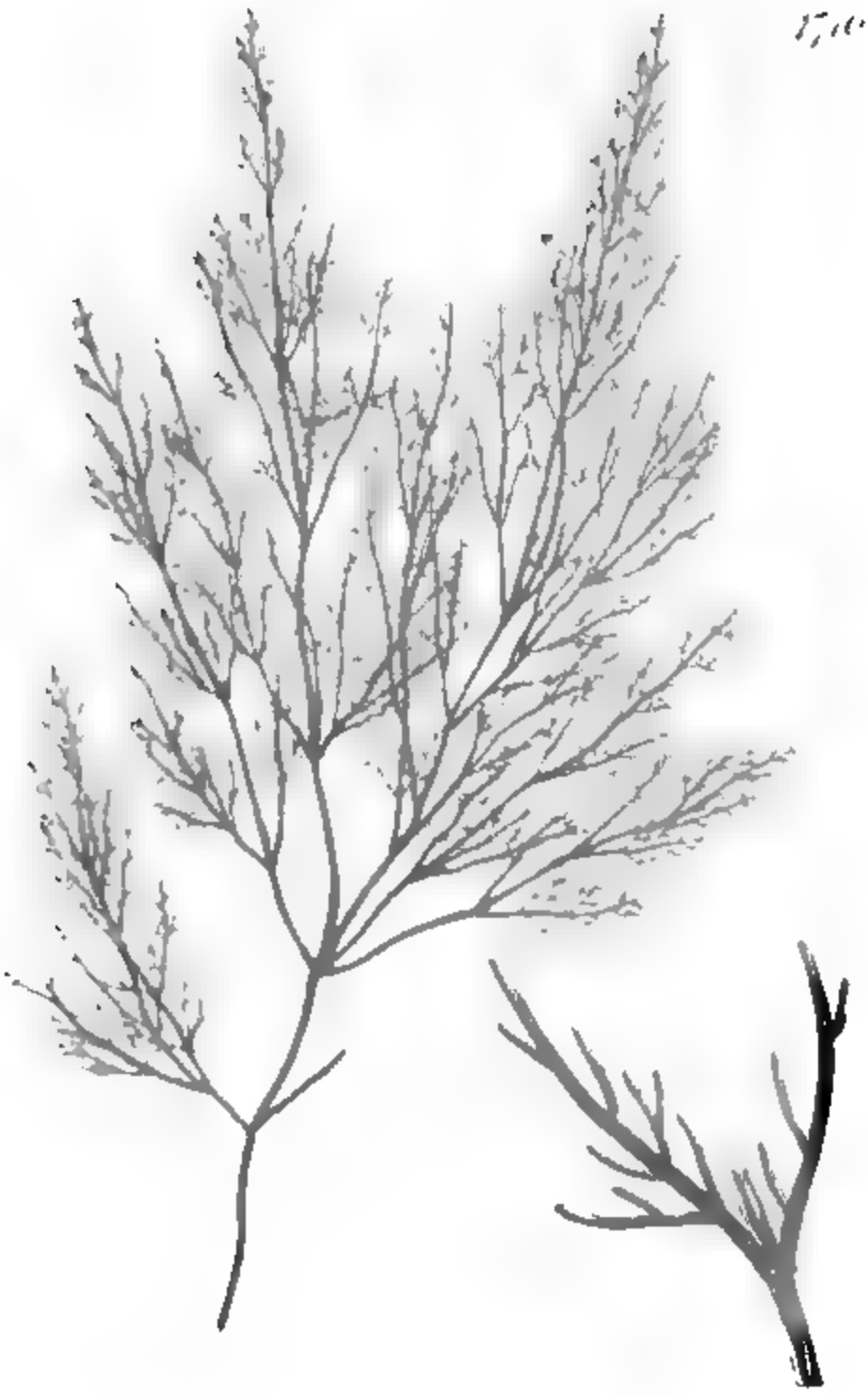
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, erect, much branched. Branches mostly ternate, cylindrical. Joints even, cylindrical, four times as long as broad.

SYN. Conferva pellucida. *Huds.* 601. *With. v.* 4. 139. *Hull.* 334.

SENT from Yarmouth by Mr. Turner in August last.

It is cast up on the beach in large green shining pellucid tufts, about 6 inches tall, which are somewhat wiry and elastic to the touch. The lower part of the frond is naked and stem-like, of a brown or purplish cast; the upper much and repeatedly branched, the branches commonly three together, the ultimate ones opposite or alternate; all a little spreading, exactly thread-shaped, bluntish. Joints exactly cylindrical, about 4 times as long as broad, of an uniform pellucid green, with partitions somewhat of a darker hue. The fructification is unknown to us.



CONFERVA aegagropila.

Globe Conferva, or Moor Balls.

CRYPTOGAMIA Alga.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Stems jointed, repeatedly branched, clustered into a globe and divaricating from the centre.

SYN. Conferva aegagropila. *Linn. Sp. Pl.* 1637. *Engl. Bot.* 834. *Wulf. in A.* 142. *Hall.* 535.

SPECIMENS of this singular production have been sent us from North Wales by the Rev. Mr. Davies, and from a large pool in Shropshire called Colmere, and another named Whitemere, by the Rev. Mr. Williams. They are the growth of alpine lakes in many different countries, and lie in great abundance at the bottom of the water. Their size is from that of a pea to 3 or 4 inches in diameter, and their form always pretty exactly spherical. Internally they are hollow, and quite destitute of any nucleus. When separated they are found to consist of innumerable green pellucid jointed filaments, repeatedly branched, and loosely entangled together. The whole contains a green fluid substance, which by drying

[redacted]

CONFERVA arcta.

Close Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Bright green, repeatedly branched. Filaments straight and parallel; branches irregularly disposed, but little spreading. Lower joints as long as broad; upper many times longer; all slightly tumid.

SYN. Conferva arcta. *Dillw. Syn.* n. 108. *t.* E.

DISCOVERED in the sea at Bantry bay, by Miss Hutchinson, from one of whose specimens, sent to Mr. Turner, our drawing, as well as Mr. Dillwyn's, is made. It grows in close straight tufts, 2 or 3 inches high, of a bright green, paler and bluish when separated. Filaments capillary, flaccid when dry, much and irregularly branched in their upper part chiefly, the

CONFERVA lanosa.

Woolly Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substanc the capillary or jointed frond, or in closed tuber united with it.

SPEC. CHAR. Yellowish green, repeatedly branc Filaments somewhat beaded. Branches rem alternate. Lower joints twice as long as bro upper much longer; all slightly tumid.

SYN. Conferva lanosa. *Roth. Catal. fasc.* 3. 291. *t Dillw. Syn. n.* 109. *t.* E.

COMMUNICATED from Cromer by Mr. Turner. have it also from the Rev. H. Davies. By what Mr. Dill remarks, it appears to be not uncommon, growing on ro or on large marine plants, in the sea.

It forms dense tufts, springing from a flat disk (accordi

CONFERVA riparia.

Entangled Shore Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Green. Filaments much branched, divaricated and entangled towards their extremities; simple below. Joints twice as long as broad, the seeds settling towards each end.

Syn. Conferva riparia. *Raii. Catal. fasc.* 3. 216. *Dillen. Syn.* n. [illegible] t. E.

COLLECTED by Miss Simonds at Bantry bay, and sent us by Mr. Turner. We have not seen it fresh, but our dried specimens confirm Dr. Raii's account of the seeds settling finally towards each end of the joints.

[2351]

CONFERVA granulosa.

Granular Olive Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Olive-green, very much branched, slender. Branches scattered, compound, spreading, with pellucid taper points. Joints as broad as long, tumid when old. Capsules lateral, scattered, sessile, obovate.

ABUNDANT on submarine plants at Brighthelmston and Shoreham, where Mr. W. Borrer collected these specimens early in July. Our liberal correspondent remarks an affinity in this species to *C. siliculosa*, *t.* 2319, which it resembles in colour, but the ramification is evidently different. The branches are often lengthened out into slender colourless points, whose joints are twice as long as broad; while those of the other parts are scarcely more than half that length. The latter become tumid with age, assuming somewhat of a beaded appearance. Here and there occur, at the sides of the branches, small, solitary, sessile, obovate, brown and opaque seed-vessels; at least so they appear to be; but those who are at all conversant with the "wonders of the deep" will never speak dogmatically on this subject, knowing how infinite is the variety of animal as well as vegetable productions, hitherto unclassed by the most curious naturalist, and how Proteus-like their appearances, as they attach themselves, in different states, to objects with which we may chance to be acquainted. We still therefore, with our worthy friend Dillwyn's leave, doubt, for him and for ourselves, on some of these subjects; see *Conferva dichotoma*, his *t.* 15, our *t.* 932.

59.

[2319]

CONFERVA siliculosa.

Small-podded Conferva.

CRYPTOGAMIA Algæ.

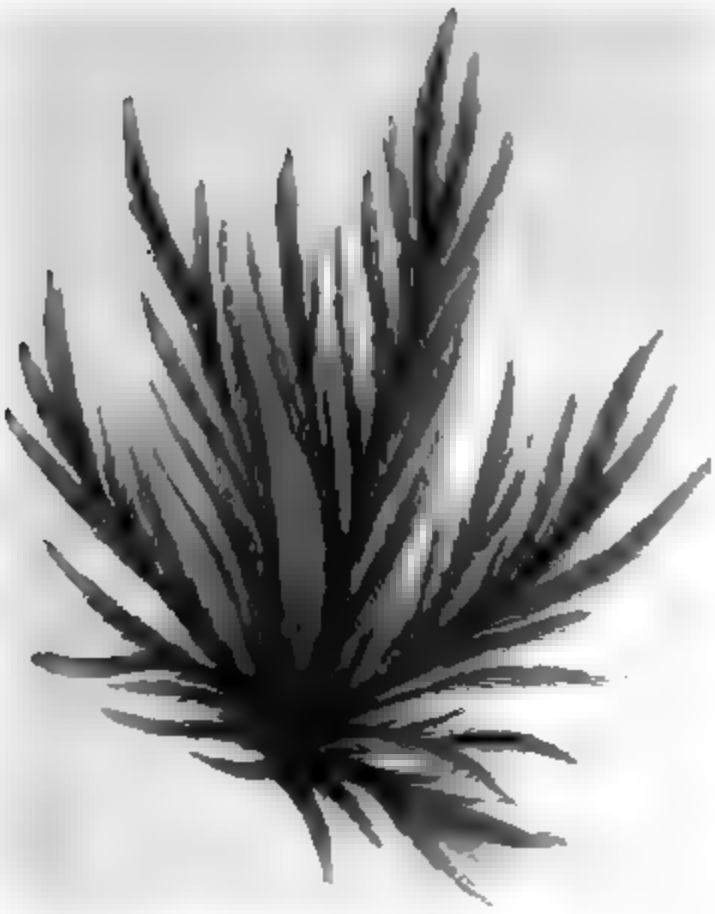
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. "Yellowish brown, very much branched, slender, all the branches generally alternate, and pointed. Joints about as broad as long. Capsules pod-shaped."

SYN. Conferva siliculosa. *Dillw. Syn. n.* 112. *t.* E.
Ceramium confervoides. *Roth. Catal. v.* 1. 151. *t.* 8. *f.* 3. *v.* 3. 148.

GATHERED by Mr. W. Borrer, in May last, upon timber in the sea at Brighthelmston.

Even Mr. Dillwyn doubts whether this be a distinct species from *C. littoralis, t.* 2290, though on account of the opinion of Mr. Hooker, as well as of Dr. Roth in the 3d vol. of his *Catalecta*, he has admitted it into his list, and that our work may not be defective as to any British plant, we follow his example, and take advantage of his specific character.—The branches seem to want that twisted appearance observable in *littoralis*, nor do their points project in a spreading manner; but the chief difference, it seems, lies in the fruit, which in the present case consists of stalked lanceolate pods, not of globular sessile capsules. We find these supposed pods very thickly jointed, at least in appearance;—may they prove in reality young branches? Whether they be so or not, the occurrence of two different shapes of fruit in some other *Confervæ*, as indicated by Mr. Dillwyn, makes us the more doubtful concerning this.



Published by J. Sowerby, London.

60.

CONFERVA littoralis.

Common Soft Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

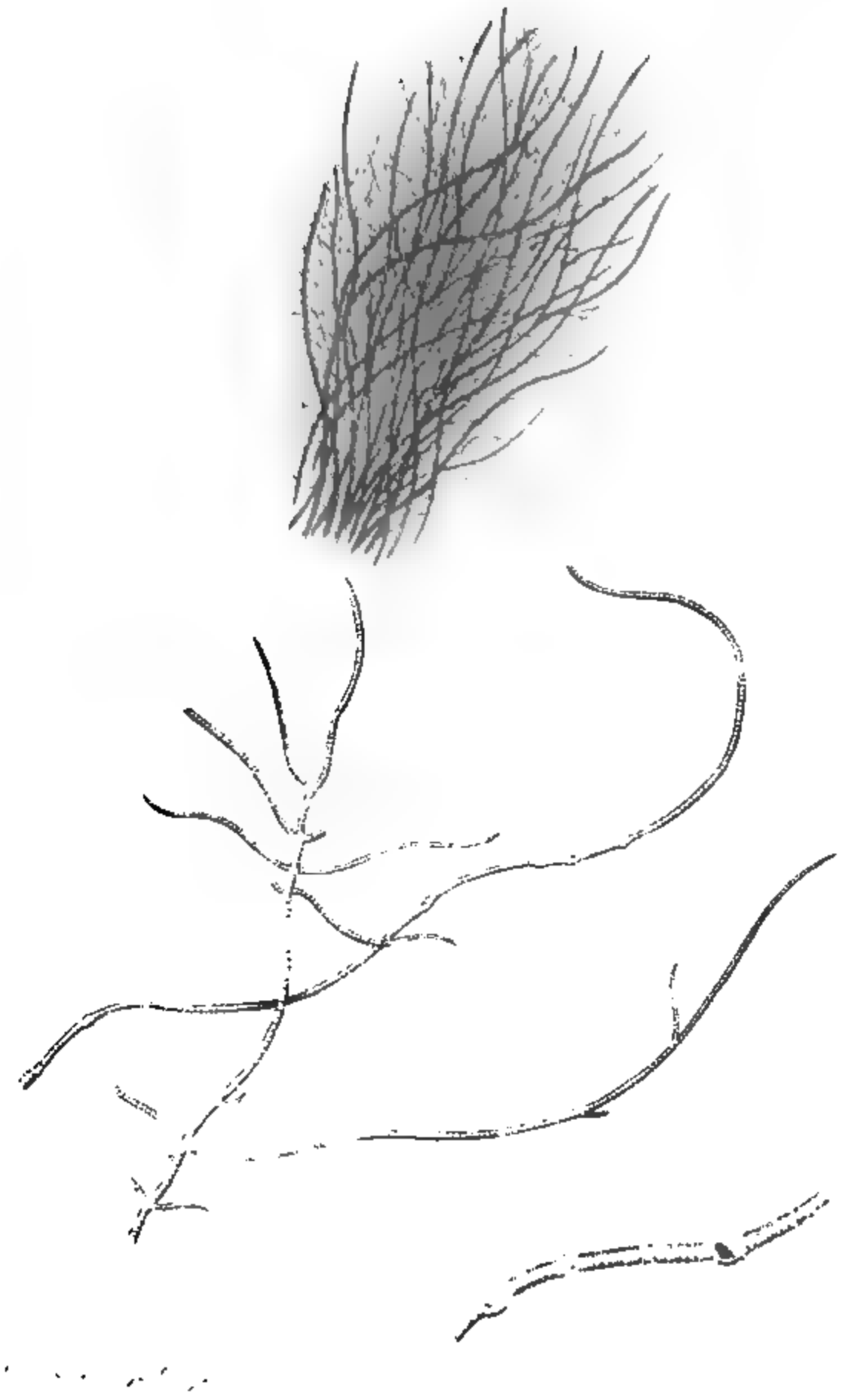
Spec. Char. Olive-brown, very much branched, slender, wavy, densely entangled and twisted; the points tapering and prominent. Joints cylindrical, twice as broad as long.

Syn. Conferva littoralis. *Linn. Sp. Pl.* 1634. *Huds.* 594. *With. v.* 4. 130. *Hull.* 331. *Lightf.* 979. *Dillw. Syn.* 32, 70. *Conf. t.* 31.

C. marina capillacea longa, ramosissima, mollis. *Dill. in Raii Syn.* 59. *Musc.* 23. *t.* 4. *f.* 19.

Ceramium confervoides. *Roth. Catal. v.* 1. 151.

COMMON on the sea shore, growing strongly attached, in dense tufts about 6 inches long, to rocks, stones, shells, or the larger submarine plants. Its colour is a rusty brown, or tan colour, with tints of a green or purplish cast. The substance is very tender and soft, but not gelatinous. Filaments slender, with innumerable ramifications, growing twisted and entangled together like ropes, while the taper very acute ultimate divisions project on all sides, giving a feathery appearance. The joints were not detected by Dillenius. They are twice as broad as long; their partitions, according to Roth and Dillwyn, two excellent authorities, dark; we find them pale, and are told they vary, according to age or circumstances, in this respect. The fructification, in the form of little lateral globes, drawn by Mr. Dillwyn, we have not seen. He appears to have found it but once.



[illegible] branchiata.

Cross-armed Sea-Cucumber.

[illegible] Age.

Gen. Char. Seeds produced within the substance of the smaller or inner tunic, or in closed tubercles united with it.

Spec. Char. Light brown, very much branched, slender, very [illegible]: the branches opposite, [illegible] widely spreading, with taper points. Joints cylindrical, twice as broad as long.

FOUND by Mr. [illegible], a salt marsh at Cley, Norfolk, in June 1801, growing among Zostera marina. Mr. Turner has also noticed it near [illegible], gathered the same in ditches, near the river at Castor, in Northamptonshire.

We have hitherto refrained from publishing this plant, because

CONFERVA fœtida.

Fœtid Pale Conferva.

CRYPTOGAMIA Alga.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles mixed with it.

Spec. Char. Pale olive. Filaments clustered longitudinally, branched, separating at the extremities; internally beaded and granulated.

Syn. Conferva fœtida. *Dillw. Conf. t.* 104. *Syn. n.* 114. *Fillars Danph. n.* 5. 1010. *t.* 56?

Ulva fœtida. *Vaucher Conf.* 235. *t.* 17. *f.* 3.

We are obliged to our friend Mr. W. J. Hooker for fresh specimens of this plant, discovered by himself in April 1808, growing on decayed *Conferva*, of other species, in the salt marshes at Clev. Norfolk. He also pointed out to us the

CONFERVA paradoxa.

Chequered Conferva.

CRYPTOGAMIA Algæ.

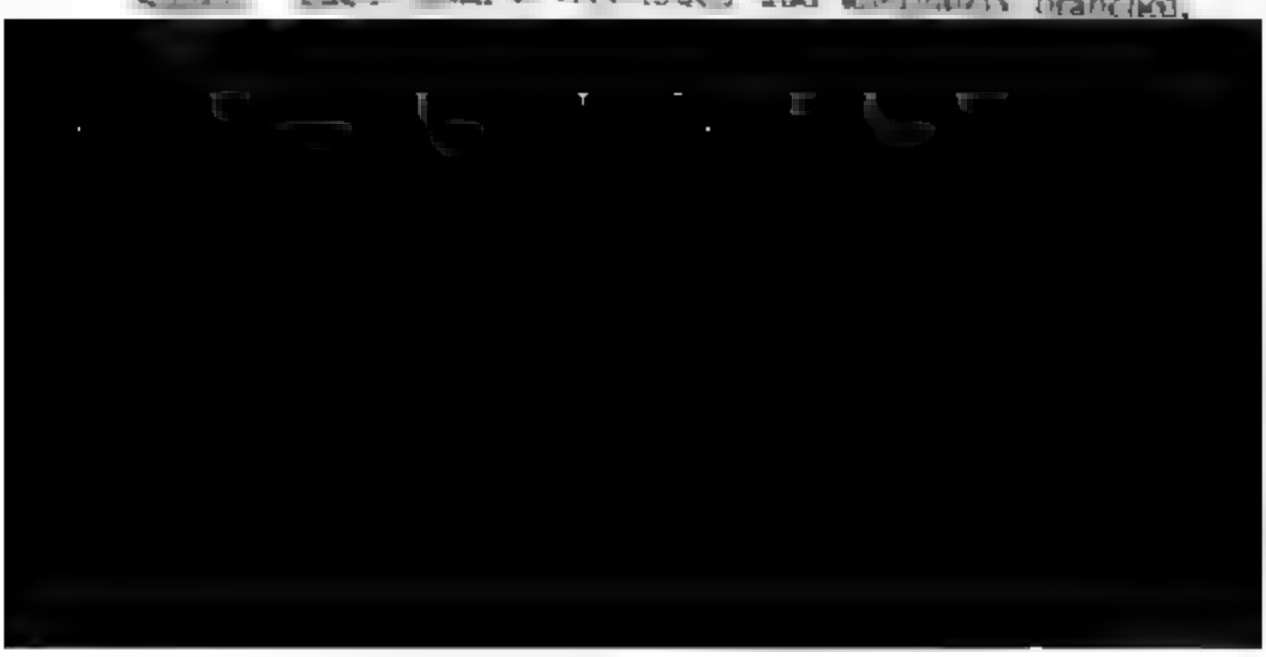
Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

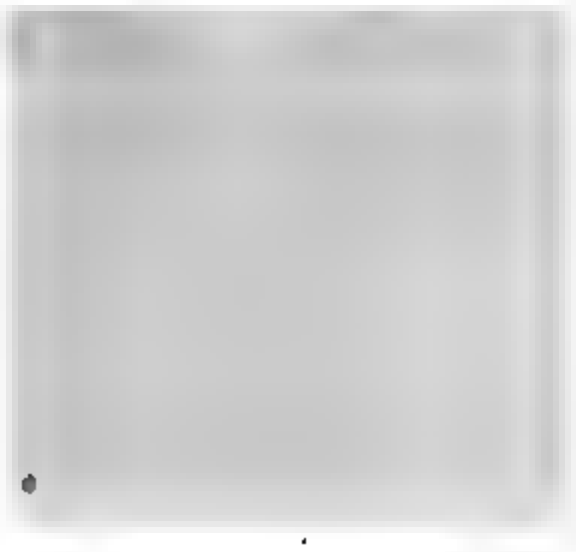
Spec. Char. Pale green, repeatedly branched, very slender, tubular, composed of laterally-combined filaments; ultimate branches simple. Joints as broad as long.

Syn. Conferva paradoxa. *Dillw. Syn.* 70. n. 115. t. F.

THIS plant was, according to Mr. Dillwyn, first discovered by Mr. Templeton in the sea near Bangor. Our specimens were communicated in July 1811, by Mr. W. Borrer, from the beach at Brighthelmston, and, being in a perfectly fresh state, they enable us to give a more complete representation of the structure of so remarkable a production, than could be made from a dry specimen: which consideration will account for, and excuse, any differences between Mr. Dillwyn's plate and ours.

The whole plant composes dense tufts, four or five inches long, of a light yellowish green hue, and slippery tender substance. Each frond is very much and alternately branched,





CONFERVA Daviesii.

Decimum Conferva.

CRYPTOGAMIA Alga.

Gen. Char. *Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.*

Spec. Char. Crimson, much branched: branches scattered, taper-pointed. Joints even, thrice as long as broad. Capsules lateral, ascending, clustered, obovate.

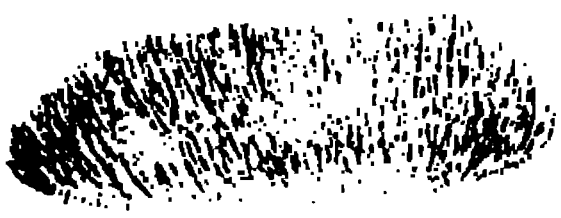
Syn. Conferva Daviesii. *Dillw. Syn.* 73. n. 122. t. F.

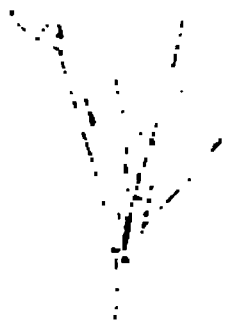
NAMED by Mr. Dillwyn in honour of our mutual friend the Rev. Hugh Davies, who found this elegant little species on the Welsh coast. Miss Hutchins has collected it in Ireland, and Mr. W. Baxter at Brightelmstone. The latter only has found the fruit, with which he favoured us last July.

C. Daviesii grows in tufts, about a quarter of an inch high,

[redacted]

1702





CONFERVA interrupta.

Interrupted Purplish Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish, much branched, forked, capillary. Joints four times as long as broad, slightly swelling upwards. Capsules on short lateral stalks, elliptical, with a transverse separation.

WE have found no description in authors of this curious little *Conferva*, which was discovered by Mr. W. Borrer on the Brighthelmston coast in July last.

The fronds are of a dull brownish rose-colour, about an inch high, very much branched in a clustered or proliferous manner; the joints about four times as long as broad, dilated upwards and obtuse. The capsules grow on short, lateral, solitary stalks, at the summits of the joints on the outer side, and are

1838

CONFERVA pedicellata.

Fruit-stalked Purplish Conferva.

CRYPTOGAMIA Algæ.

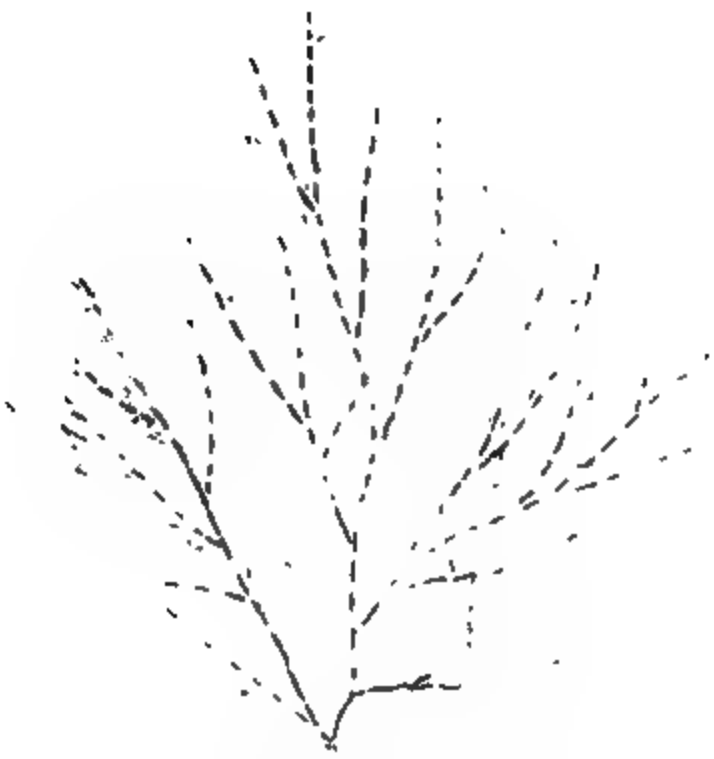
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish, much branched, forked, capillary. Joints many times longer than broad, slightly swelling upwards. Capsules obovate, on short stalks, solitary, from the forks of the branches.

FOR this also we are entirely obliged to Mr. W. Borrer, who discovered it on Brighthelmston beach in July 1807. We have in vain sought for a description in Roth, or any other competent writer, to which it could be referred.

The colour is a very pale dull rose-colour. The root fibrous. Fronds about 3 inches high, finer than the human hair, forming thick straight tufts like *C. stricta, Dillw. Conf. t.* 40, acutely forked at almost every joint. Joints very long; the smaller cylindrical; the larger ones swelling towards their upper end. Capsules obovate, containing a mass of dark-red seeds, and each standing on a short stalk, proceeding, mostly solitary, from some of the upper forks of the frond. Mr. Borrer is inclined to think the base of the capsule is, in a manner, articulated with its proper stalk. Sometimes these stalks have a lateral direction, as may be seen in our figure. This, like *C. multifida, t.* 1816, would come under Dr. Roth's *Ceramium*, a genus which perhaps may be established, when the subject has more generally been studied, and sufficient facts are collected for any theoretical botanist to decide upon it.

1817



70.

[2352]

CONFERVA corymbosa.

Corymbose Red Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Rose-coloured, repeatedly branched, corymbose, slender and tufted. Joints slightly swelling upward, with pellucid partitions. Branches forked. Capsules solitary, obovate, lateral.

FROM the beach at Brighthelmston, gathered there by Mr. W. Borrer early in July, with the fructification. We have received the same species, by favour of Mr. Gibbs, from Kingsbridge, Devon, and believe it is what Miss Hutchins found at Bantry bay, mentioned under *C. Hookeri* in Dillwyn; see his *t.* 106; though the two species, when properly examined, are totally dissimilar. The present more resembles

[1[illegible]]

CONFERVA setacea.

Common Scarcest Conferva.

[illegible] Age.

Gen. [illegible] Joints produced within the substance of the capillary or tubed frond, or in closed tubercles united with it.

Spec. [illegible] Common, alternately and repeatedly ramified, tape-jointed. Joints a little swelling, four times as long as broad. Lateral shoots bearing rows of filaments, containing many globular seeds.

Syn. Conferva setacea. *Hud.* [illegible] *With.* v. 4. 157. *Hal.* 555.

C. [illegible] gelatinosa, corallina inter geniculos, tenuissima. *Dill. Musc.* 55. t. 6. f. 5. *Turn. Tr. of L. Soc.* [illegible]

Corallina [illegible] gelatinosa rubra, ramulis et geniculis pentagonis. *Dal. in Raii Syn.* 54.

A [illegible] species, not up on the sea shore in various parts of our island in summer and autumn. Mr. Turner [illegible] from Yarmouth. The fructification, said to [illegible]


1089

CONFERVA corallina.

Coralline Red Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the articulated frond, or in closed tubercles united with it.

Spec. Char. Coralline, much branched. Joints swelling upwards, thrice as long as broad; the fertile ones fringed at the summit with short, incurved, simple filaments, enfolding numerous clustered seeds, imbedded in mucus.

Syn. Conferva corallina. *Linn. Syst. Veg. ed.* 14. 973. *Wulf.* 196. *Hull.* 555. *Lightf.* 988. *Roth. Germ.* v. 3. 225.

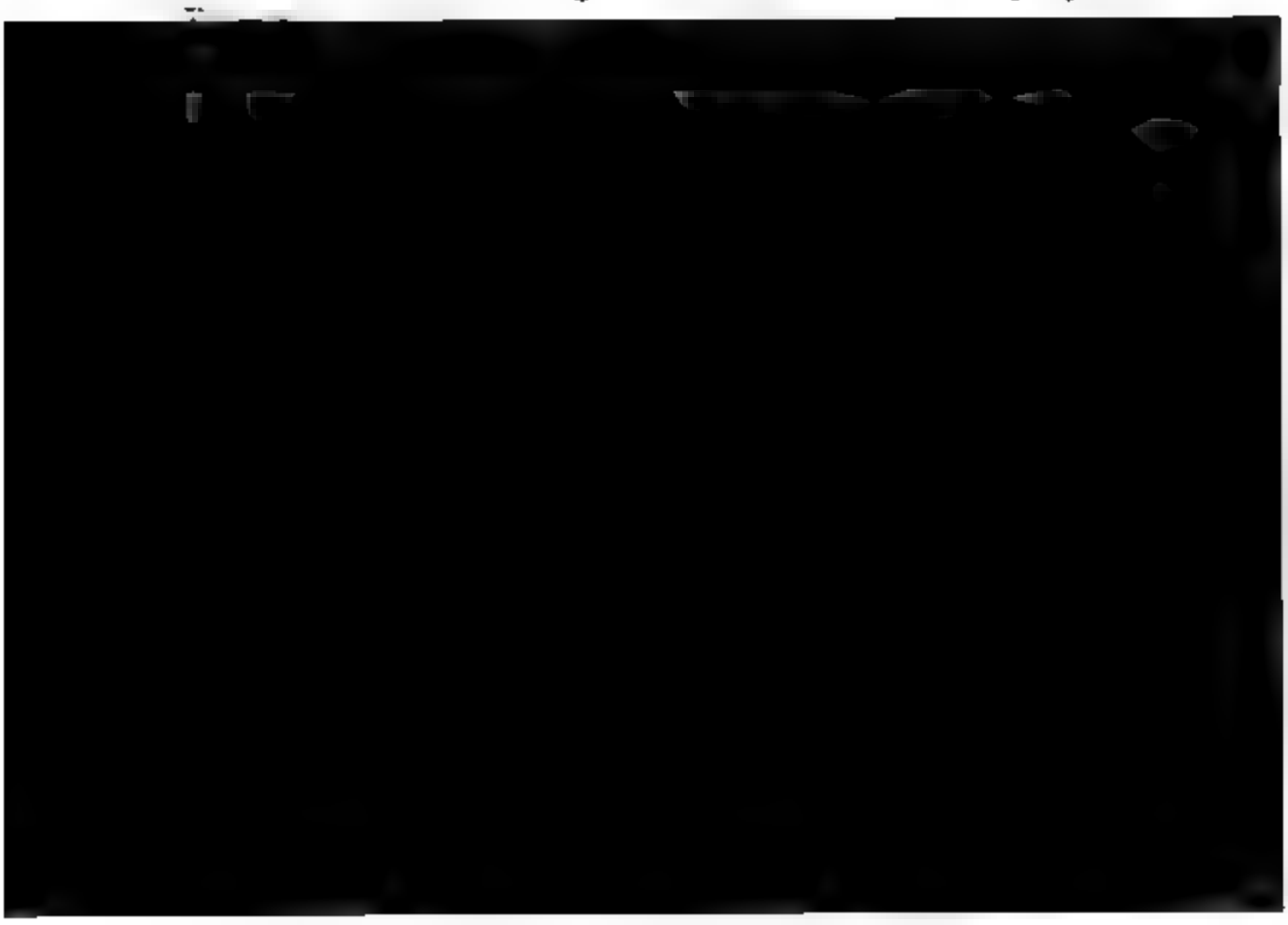
C. corallinoides. *Linn. Sp. Pl.* 1626. *Huds.* 598.

C. geniculata. *Ellis in Phil. Trans.* v. 57. 425. t. 18. f. 2.

C. marina gelatinosa, corallinæ instar geniculata crassior. *Dill. Musc.* 55. t. 6. f. 56.

Corallina articulis gelatinosa alba, geniculis crassioribus pellucidis. *Dill. in Ruii Syn.* 54.

Gathered at Brighthelmston beach in July by Mr. W.




1615

73.

CONFERVA barbata.

Bearded Red Conferva.

CRYPTOGAMIA Algæ.

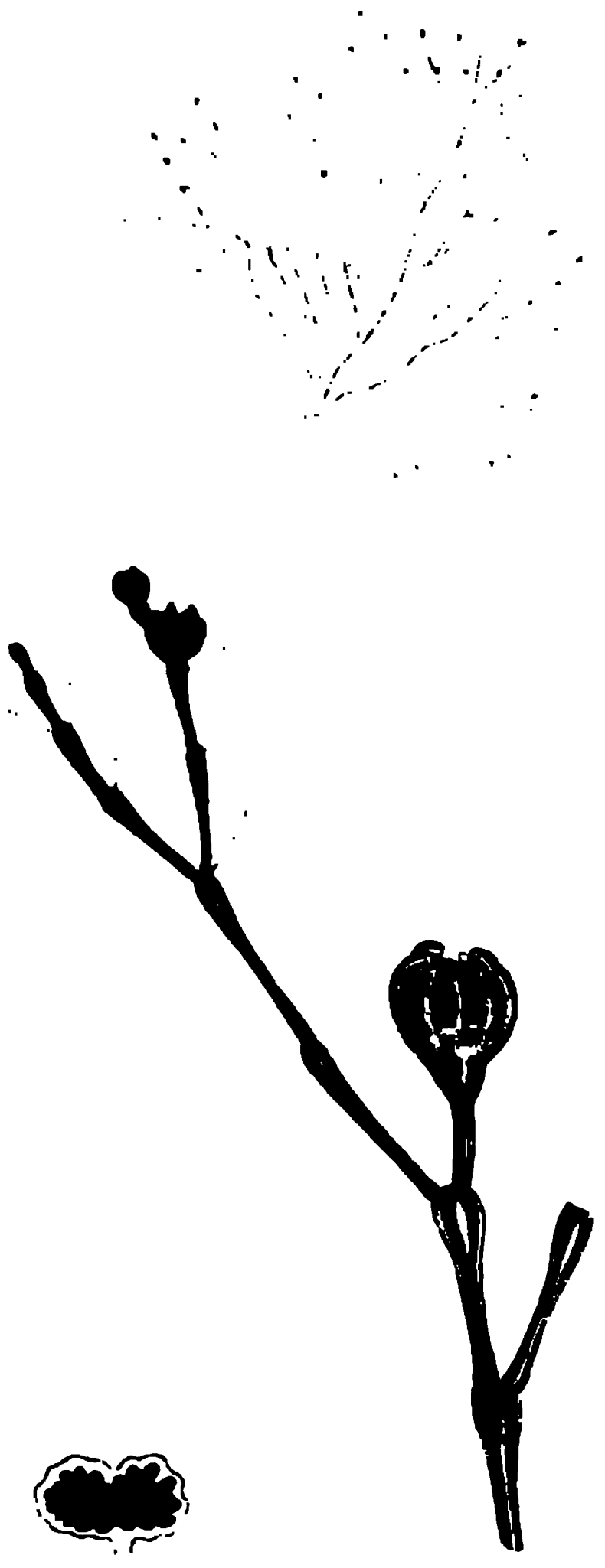
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale crimson, repeatedly branched. Joints swelling upwards, five times as long as broad; the upper ones beset with opposite, branched, pale fibres. Lateral shoots bearing tufts of simple filaments, enfolding many seeds imbedded in mucus.

SYN. Conferva florifera. *Ellis in Phil. Trans. v. 57. 425?* No description nor figure.

FOUND on the beach at Brighthelmston, in July 1807, by Mr. W. Borrer, of whose remarks we have profited in the following description.

The fronds are about 2 or 3 inches high, of a pale rose-colour, repeatedly branched or forked at most of the articulations, the lowermost branches especially divaricated. Joints a little swelling upwards, 5 or 6 times as long as broad, the lower ones more exactly cylindrical: those about the summit bearded with opposite, long, branched, pale, very fine fibres. Fructification at the ends of short, lateral, single-jointed branches, as in C. arborea, t. 1659, consisting of roseaceous tufts of inflexed unjointed filaments, enfolding a mass of



1816

CONFERVA equisetifolia.

Red Sponge Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red, branched, cylindrical. The branches clothed with whorled, imbricated, forked, jointed filaments.

SYN. Conferva equisetifolia. *Lightf.* 984. *With.* v. 4. 133. *Hull.* 332.

C. imbricata. *Huds.* 603.

Muscus marinus hirsutus, flagellis longioribus, rarius divisis, ruber. *Moris. Hist.* v. 3. 650. *sect.* 15. *t.* 9. *f.* 7.

MR. WOODWARD and Mr. Turner have both observed this Conferva on the beach at Yarmouth. The latter assures us it is often found there. Lightfoot speaks of it as rather rare in Britain. We are not sure that his name, *equisetifolia*, which has been generally adopted, is preferable to the rejected one of Hudson.

The whole plant is 3 or 4 inches long, much and alternately branched, of a bright red when young, but in the older parts turning purple or brown. All the branches are cylindrical, and uniformly clothed with densely imbricated whorled filaments, which when magnified prove to be forked, and curiously jointed; the joints are contracted, and redder than the other parts. No fructification has yet been detected.

CONFERVA equisetifolia.

The Sponge Conferva.

[illegible] Alga.

Gen. Char. [illegible] proceed in round, solitary, closed [illegible], proceeding from the frond, but united with it.

Spec. Char. Flat, branched, cylindrical. The branches [illegible] with viscous, incrusted, forked, jointed filaments.

Syn. Conferva equisetifolia. *Lightf.* 964. *With.* v. 4. 138. *Eng.* 1102.

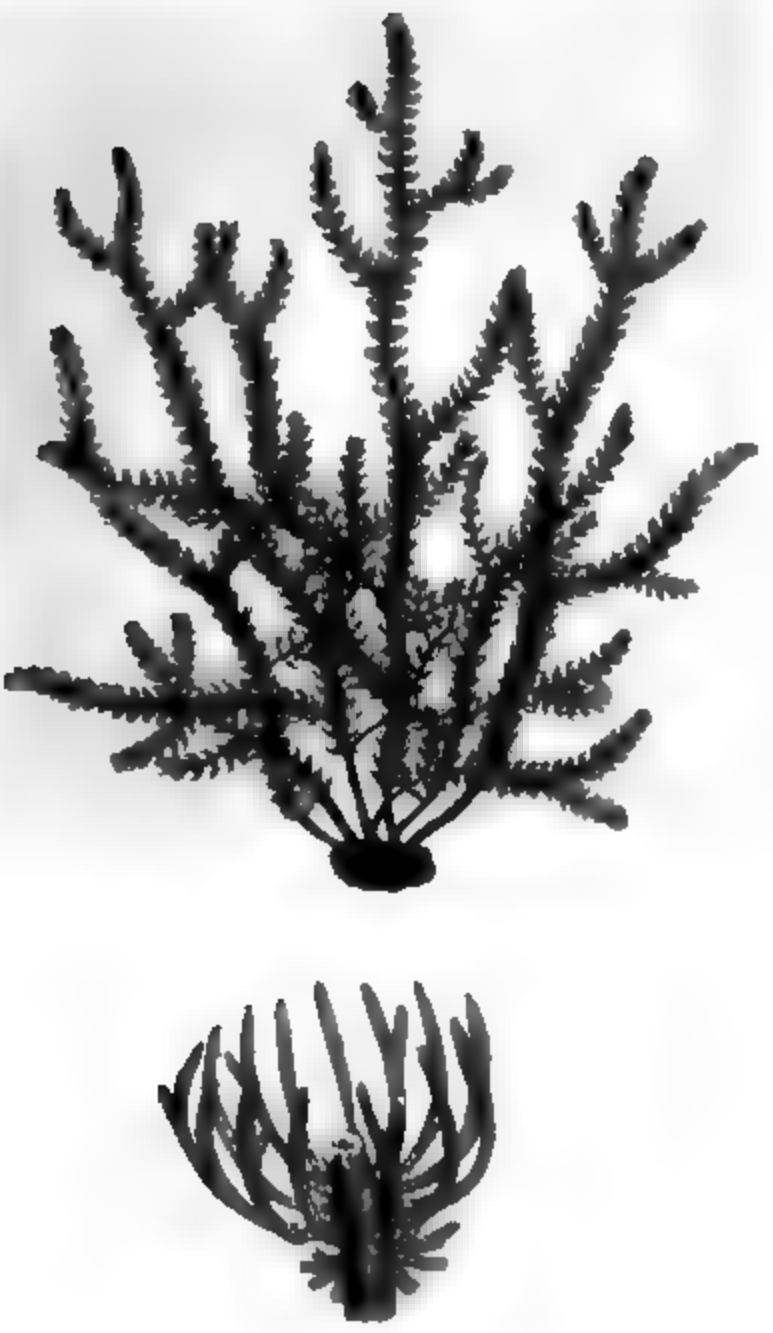
C. [illegible]. *Flus.* 805.

Muscus marinus [illegible], fagellis longioribus, raris [illegible]. *Mart. Hist.* v. 3. 650. sect. 15. [illegible].

Mr. Woodward and Mr. Turner have both observed this Conferva on the beach at Yarmouth. The latter states it is often found there. Lightfoot speaks of it as rather rare in Britain. We are not sure that his name, *equisetifolia*,

[illegible]

Pub. 1 Nov. 1809 by Jos. Lowndes, London.



Mar 1.1767 Published by Jo (Searsby) London .

7.

[2427]

CONFERVA spongiosa.

Scattered Spongy Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Olive brown. Frond cartilaginous, variously branched, densely beset with scattered, incurved, slender, simple filaments. Joints about as broad as long. Capsules obovate, stalked.

Syn. Conferva spongiosa. *Huds.* 596. *With.* v. 4. 132. *Hull.* 332. *Lightf.* 983. *Dillw. Syn.* n. 133. *Conf.* t. 42.

Fucus hirsutus. *Linn. Mant.* 134.

F. teretifolius spongiosus pilosissimus. *Raii Syn.* 46.

Found on various parts of the British sea shores. Mrs Baddeleph has obligingly communicated it in fruit from South-

2427

9.

CONFERVA fluviatilis.

Horse-tail Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull green. Filaments repeatedly and alternately branched, somewhat rigid, tapering at each end, regularly swelling at intervals, hollow, without any internal partitions.

SYN. Conferva fluviatilis. *Linn. Sp. Pl.* 1635. *Huds.* 597. *With.* v. 4. 134. *Hull.* 332. *Lightf.* 985. *Dillw. Conf.* t. 29. *Roth. Catal.* v. 1. 201. *Dicks. H. Sicc. fasc.* 17. 25.

C. fluviatilis lubrica setosa, equiseti facie. *Dill. Musc.* 39. t. 7. f. 47.

β. C. torulosa. *Roth. Catal.* v. 1. 200.

C. fluviatilis nodosa, fucum æmulans. *Dill. Musc.* 39. t. 7. f. 48.

FOUND in clear rapid streams, and therefore more especially in mountainous countries. Mr. W. Borrer sent it from the Winter-bourne, a rapid rivulet at Lewes, Sussex, in April last.

Several stems, 4 to 6 inches long, grow horizontally from


1763

CONFERVA verrucosa.

Rough-warted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Branches irregularly scattered and subdivided, scarcely jointed, studded with rough warts.

FOR this we are obliged to Miss Biddulph, who found it at Southampton in the summer of 1800. Mr. Turner informs us that he has had it for some years from the Cornish coast, and considering it as a new species allied to *C. villosa*, *t.* 546, has designated it by the above name. It grows on *Fuci* or other *Confervæ* in the sea, and belongs, with *C. villosa*, and *C. fluviatilis* of Linnæus, to a genus of M. Vaucher's called *Polyspermum*.

The frond is 3 or 4 inches high, pale reddish brown, capillary but uneven, much and very irregularly branched, somewhat twisted, not perceptibly jointed, except perhaps in the youngest shoots, where we can sometimes perceive at least an interruption of colour at intervals. The whole is beset with scattered warts, but slightly prominent, rough with little projecting bristles. These, according to Vaucher's account of *C. fluviatilis*, are jointed fibres in which the seeds are lodged. *Fucus pedunculatus* (see our *t.* 515) should seem to belong to the same genus with these plants.

Vol. 1 Pl. 7. Published by Jas. Sowerby, London

CONFERVA ciliata.

Ciliated Forcipated Conferva.

CRYPTOGAMIA Algæ.

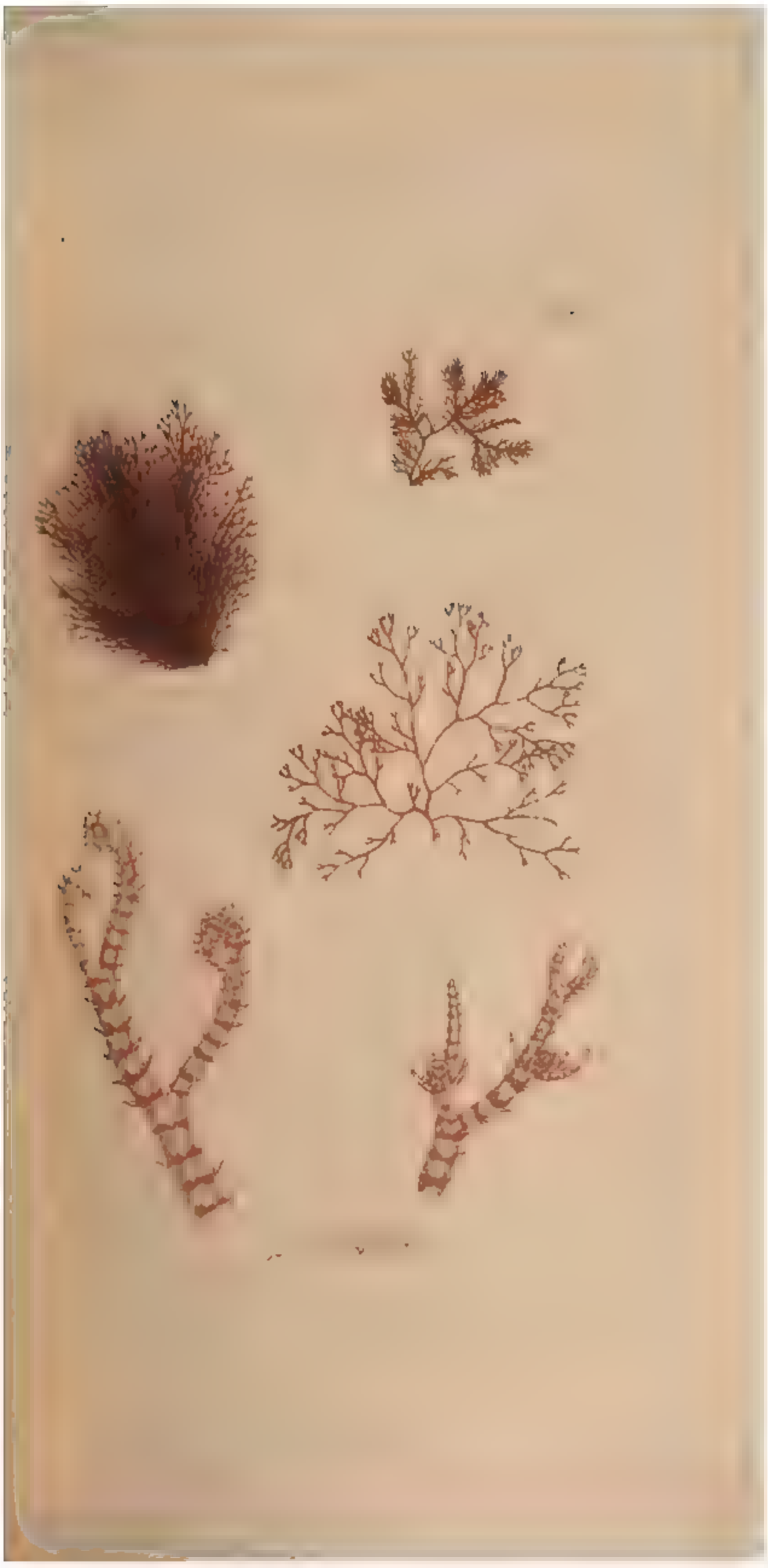
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale red, dichotomous, forcipated at the tips. Joints short, fringed at their partitions. Capsules lateral, roundish, beset with short branches.

SYN. Conferva ciliata. *Ellis in Phil. Trans. v. 57. 425. t. 18. f.* h H. *Huds.* 599. *With. v.* 4. 137. *Hull.* 333. *Lightf.* 998. *Dillw. Syn. n.* 137. *Conf. t.* 53.

THIS beautiful little *Conferva*, whose singularly elegant appearance under a microscope can never leave its species in doubt, is found commonly enough on the sea coast, growing either on stones, or on various submarine plants, in reddish tufts, scarcely two inches high. Each frond grows from a callous root, and is very much branched and forked, the tips incurved like a pair of forceps. The joints are about as broad as long, pellucid, often nearly colourless. Partitions red, fringed with short, white, spreading, pellucid spines. Seeds red, dense, in globular lateral capsules, sessile amongst a few short branches.

Mr. Ellis first published any account of this plant. Linnæus had a specimen, but left it undescribed.



CONFERVA diaphana.

Red-dotted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, capillary, repeatedly forked, divaricated; the ultimate divisions like a pair of forceps. Joints short, pellucid, deep red at each end. Capsules lateral, solitary, globose.

SYN. Conferva diaphana. *Lightf.* 996. *Huds.* 653. *With. v.* 4. 139. *Hull.* 334. *Dillw. Conf. t.* 88. *Dicks. H. Sicc. fasc.* 18. 25.

C. nodulosa. *Huds.* 600.

C. marina nodosa lubrica, ramosissima et elegantissima rubens. *Dill. Musc.* 35. *t.* 7. *f.* 40. *Raii Syn.* 62. *t.* 2. *f.* 3. *Turn. Tr. of L. Soc. v.* 7. 108.

RECEIVED from the Sussex coast, by favour of Miss Biddulph, in November last. It is frequently found in rocky or pebbly basons on the shore, or growing upon the larger marine plants.

Nothing can be more elegant than this species. Its whole stem and branches are finer than hair, repeatedly forked and regularly divaricated, each branch terminating in a pair of short incurved points like pincers. The joints are usually

17.12

CONFERVA rubra.

Red Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, ſolitary, cloſed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Scarlet, repeatedly branched, thread-ſhaped, thickly jointed; ultimate branches briſtle-ſhaped, alternate. Capſules ſeſſile, ſolitary, dark red.

SYN. Conferva rubra. *Hudſ.* 600. *With. v.* 4. 138. *Hull.* 333.

C. noduloſa. *Lightf.* 994.

C. marina geniculata ramoſiſſima lubrica, longis ſparſiſve ramulis. *Raii Syn.* 61. *Dill. Muſc.* 34. *t.* 6. *f.* 38.

WE have mentioned p. 1163 that this Conferva often grows on *Fucus lycopodioides*. From the ſame gentlemen to whom we are obliged for that communication, we have received full-grown ſpecimens on the ſtem of the great *F. digitatus*. It is not a rare ſpecies, being found, either growing or caſt up, on the coaſt of various parts of Britain.

Its colour, naturally a fine red, is ſoon changed to a pale or ſandy hue by expoſure on the beach, eſpecially in the older branches. The fronds are numerous, very much and alternately branched, ſlender, thread-ſhaped, very cloſely jointed throughout, their ultimate branches briſtle-ſhaped and a little incurved. The joints are deep red; the interſtices pale, as uſual in other ſpecies. The capſules, full of dark red ſeeds, ſtand ſeſſile and ſolitary upon the ſides of the ſmaller branches.

84.

CONFERVA tetragona.

Pink Square-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, repeatedly branched. Branches square. Joints twice as long as broad. Capsules lateral, sessile, globose.

SYN. Conferva tetragona. *With. v.* 4. 405. *Hull.* 334. *Dillw. Conf. t.* 65.

THE late excellent Colonel Velley, whose valuable life was sacrificed at Reading last summer by the carelessness of a stage-coach driver, as many others have been, found this plant at the Bill of Portland, in company with Mr. Stackhouse. Mr. Dillwyn has gathered it near Swansea, and Mr. Turner at Weymouth and in Fresh-water bay. It grows parasitically on the larger *Fuci*, and is probably annual.

From one callous root arise many stems, 2 or 3 inches high, repeatedly and alternately branched, spreading in every direction. The branches are in 3 rows, the ultimate ones finely awlshaped. Joints of the stem twice as long as broad; those of the branches of much shorter proportion. According to Mr. Stackhouse's remark, both stem and branches are square with hollow sides. The capsules are globose, and sessile about the upper branches. The colour of the whole when fresh is an uniform light red or pink, but the colouring matter soon shrinks into the middle of each joint, and leaves the external part pellucid.

85

CONFERVA tetrica.

Dirty Red Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull red, much branched. Branches triply and alternately pinnate; the points somewhat curved. Joints twice or thrice as long as broad. Capsules scattered, obovate, slightly stalked.

SYN. Conferva tetrica. *Dillw. Conf. t.* 81.

GROWS on stones and large sea-weeds in the sea. Mr. Dillwyn, who alone as far as we know has described this species, mentions it as common near Swansea. Our specimen was communicated to Mr. Turner from Bantry bay, Ireland, by Miss Hutchins, a lady whose discoveries we shall have more opportunities of recording. We rejoice in every fresh instance of the application of taste and talents to so pleasing and com-

CONFERVA rosea.

Rose-coloured Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Rose-coloured, repeatedly branched, very slender and tufted; articulations pellucid, a little contracted. Capsules sessile, obovate, lateral, leaning one way.

SYN. Ceramium roseum. *Roth. Catalect. Bot. fasc.* 2. 182.

MR. SOWERBY first observed this elegant little *Conferva* in August 1797, growing in dense tufts upon *Fucus vesiculosus* by the river side at Yarmouth. Specimens sent by Dr. Roth to Mr. Turner prove it to be the *Ceramium roseum* of his *Catalecta Botanica*, which no other writer seems to have mentioned. We have profited by his excellent and ample description in the

87.

[2465]

CONFERVA purpurascens.

Purple Veiny Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Purplish red, repeatedly branched, very slender and tufted. Joints slightly tumid, thrice as long as broad, with pellucid partitions: those of the main stems compound. Capsules lateral, obovate, sessile.

Syn. Conferva purpurascens. *Huds.* 600. *With.* v. 4. 138. *Hull.* 333. *Turn. Tr. of L. Soc. v.* 7. 108.

C. marina nodosa, coralloidis montani instar ramosa. *Dill. Musc.* 36. *t.* 7. *f.* 41.

Gathered on the beach at Brighthelmstone, in July last, by Mr. W. Borrer, who thinks it may be *C. purpurascens* of Hudson, a species hitherto involved in some doubt, and thought by Mr. Dillwyn the same as our *rosea*, *t.* 966. We should be much inclined to adopt the opinion of this able writer, were his own *rosea* (*Conf. t.* 17.) free from uncertainty. See his *Synopsis*, 79. We can scarcely doubt that the above synonyms are right. [illegible]

CONFERVA thuioides.

Arbor-vitæ Conferva.

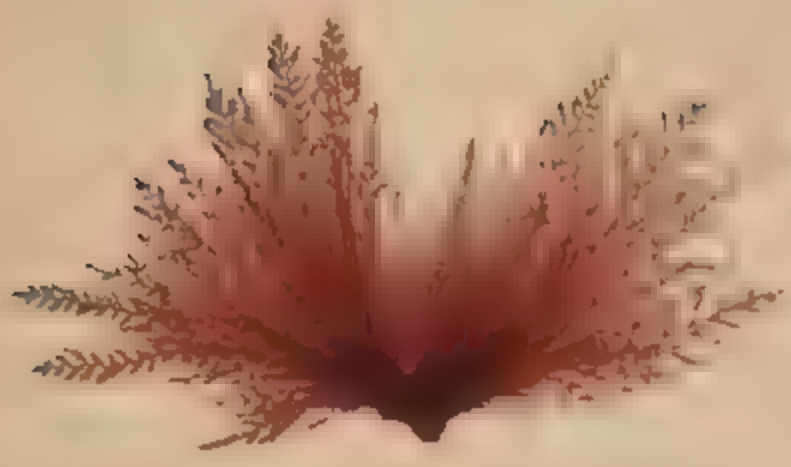
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Rose-coloured, repeatedly branched, very slender and tufted. Joints cylindrical, with pellucid partitions. Branches zigzag; their lateral shoots alternate, compound, with very short joints.

MR. W. BORRER, to whom we are obliged for this *Conferva*, has found it on Yarmouth beach, several different years, in September and October.—Mr. Turner is of opinion that it was comprehended by Mr. Dillwyn under his idea of *parasitica*, in his Synopsis, p. 87, from which being very distinct, it is consequently a nondescript in that valuable catalogue.

It differs essentially from *parasitica*, t. 1429, in not belonging to the tribe we have so often noticed with compound or aggregate joints, but on the contrary it has the simply tubular



CONFERVA Borreri.

Borrerian Conferva.

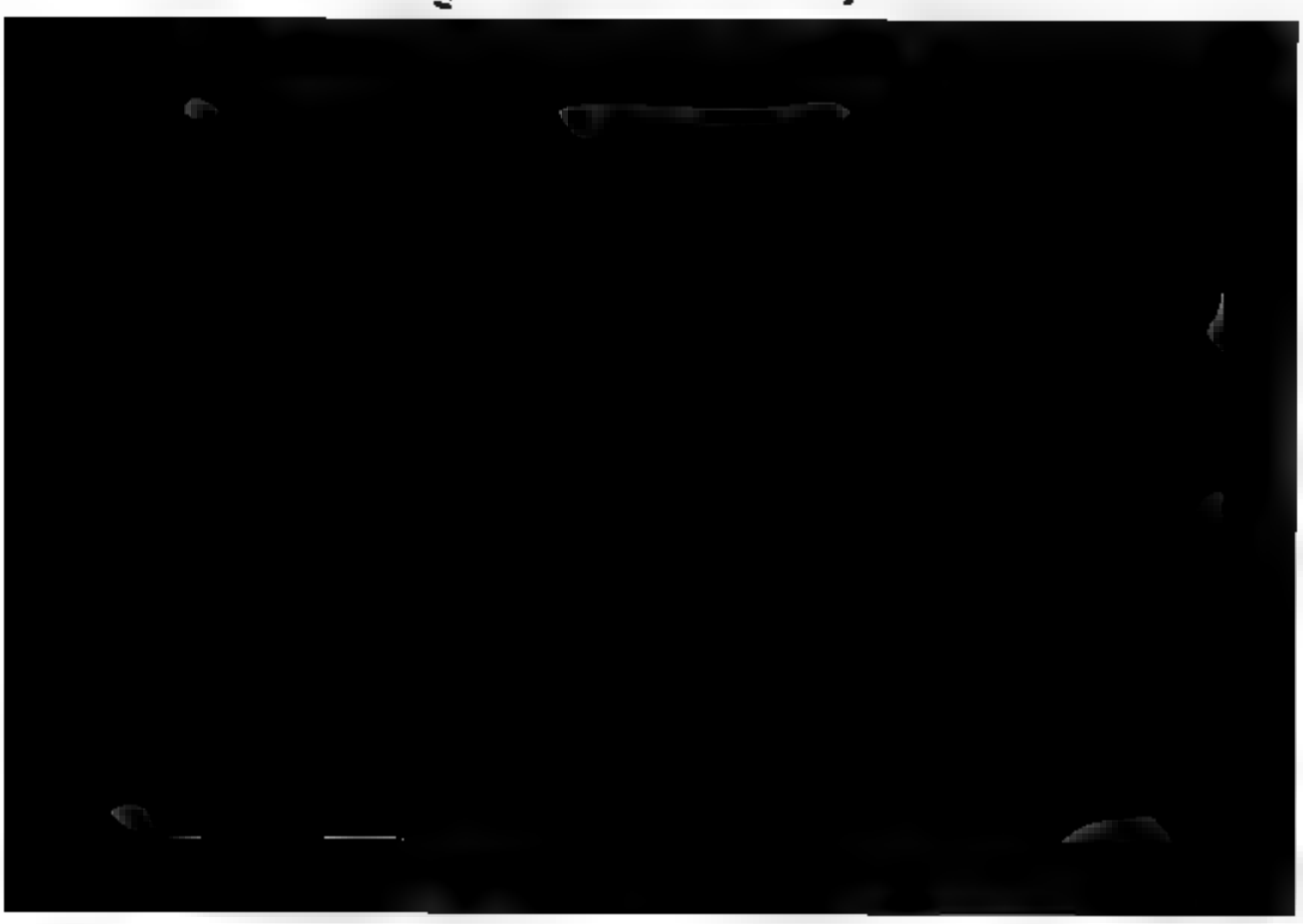
CRYPTOGAMIA Algæ.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles mixed with it.

Spec. Char. Bright red, capillary, repeatedly branched. Branches all alternate, spreading in two directions, zigzag: the ultimate ones level-topped. Joints cylindrical, about twice as long as broad.

Gathered on Yarmouth beach, in October last, by William Borrer junior, Esq. F. L. S., to whom the botany of England is so much indebted that we are happy to commemorate his name with this beautiful plant, which Mr. Turner, to whom we are obliged for many remarks concerning it, has described for the purpose.

C. Borreri grows from a small disk, in tufts about 2 inches



70.

CONFERVA Turneri.

Turnerian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, erect, crowded, oppositely pinnate. Branches simple or somewhat pinnate. Joints thrice as long as broad. Capsules globose, sessile or stalked, on the lower part of the branches, leaning one way.

SYN. Conferva Turneri. *Dillw. Conf. t.* 100. *Syn.* 79. n. 144.

Ceramium Turneri. *Roth. Catal. v.* 3. 128. *t.* 5. Dillw.

WHAT we figured under this name in *v.* 23. *t.* 1637, was not known to us as *C. Plumula* of Ellis, nor had we then received the fasciculus of Dillwyn in which it is exhibited with that appellation; owing to accidents incident to such publications. Still less had we any information of the present being published in Roth's third volume, which we have only occasionally seen. Possibly the two species may have been confounded in some of our communications respecting them, though they are unquestionably very different.

This grows on other stouter submarine plants, in dense tufts, about an inch high, of a delicate rose-colour. Each frond is erect, linear-lanceolate, composed in a pinnate manner of numerous opposite short branches, which are sometimes simple,

CONFERVA Borreri.

Borrerian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Bright red, capillary, repeatedly branched. Branches all alternate, spreading in two directions, zigzag; the ultimate ones level-topped. Joints cylindrical, about twice as long as broad.

GATHERED on Yarmouth beach, in October last, by William Borrer junior, Esq. F. L. S., to whom the botany of England is so much indebted that we are happy to commemorate his name with this beautiful plant, which Mr. Turner, to whom we are obliged for many remarks concerning it, has destined for the purpose.

C. Borreri grows from a small disk, in tufts about 2 inches high, of a beautiful delicate pink colour, turning orange when kept out of the sea water. Its fronds are extremely slender, much and repeatedly branched, the branches somewhat zigzag, spreading in 2 ranks; the ultimate ones level-topped, or, as it were, corymbose. The joints are cylindrical, a little contracted where they meet, about twice or thrice as long as broad. We know nothing of the fructification. It may be expected to resemble that of *C. setacea, t.* 1689.

90.

CONFERVA Turneri.

Turnerian Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Red, erect, crowded, oppositely pinnate. Branches simple or somewhat pinnate. Joints thrice as long as broad. Capsules globose, sessile or stalked, on the lower part of the branches, leaning one way.

Syn. Conferva Turneri. *Dillw. Conf. t.* 100. *Syn.* 79. *n.* 144.

Ceramium Turneri. *Roth. Catal. v.* 3. 128. *t.* 5. Dillw.

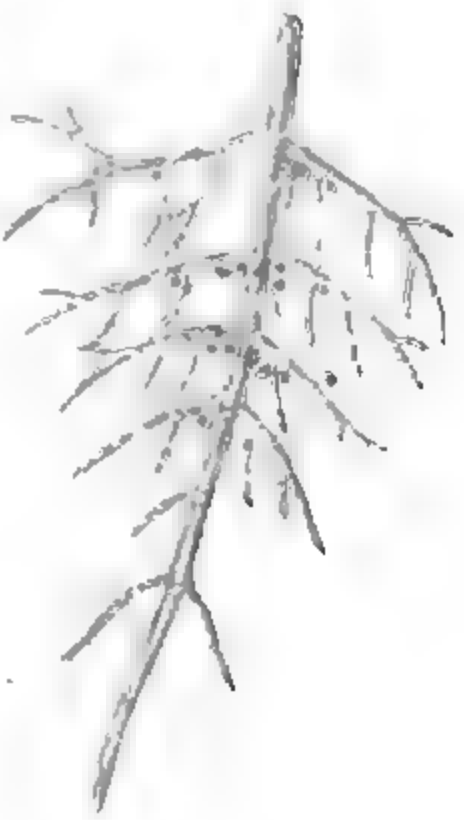
WHAT we figured under this name in *v.* 23. *t.* 1637, was not known to us as *C. Plumula* of Ellis, nor had we then received the fasciculus of Dillwyn in which it is exhibited with that appellation; owing to accidents incident to such publications. Still less had we any information of the present being published in Roth's third volume, which we have only occasionally seen. Possibly the two species may have been confounded in some of our communications respecting them, though they are unquestionably very different.

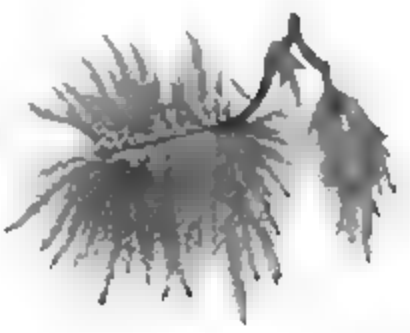
This grows on other stouter submarine plants, in dense tufts, about an inch high, of a delicate rose-colour. Each frond is erect, linear-lanceolate, composed in a pinnate manner of numerous opposite short branches, which are sometimes simple, oftener imperfectly pinnate, rarely again branched. The joints throughout are cylindrical, about thrice as long as broad, with pale partitions. Globose red capsules, sessile or stalked, solitary or in groups, are found on the upper side of the lower part of the branches. Our specimens were sent from Southampton by Miss Biddulph, in Jan. 1806, and June 1807.—To *t.* 1637 must now be substituted the following synonyms.

CONFERVA Plumula.

Little Feathery Conferva.

Conferva Plumula. *Ellis in Phil. Trans. v.* 57. 425. *t.* 18. *f.* g. G. *Dillw. Conf. t.* 50. *Syn.* 79. *n.* 145.





CONFERVA Arbuscula.

Red Shrubby Conferva.

CRYPTOGAMIA Alga.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Red, much branched. Main stems thick, naked, without evident joints. Branches compound, naked, somewhat whorled; their ultimate segments alternate. Joints as broad as long. Capsules sessile, globose.

Syn. Conferva Arbuscula. *Dillw. Conf. t. 85.*

For this also we are indebted to Miss Hutchins, who sent it from Bantry bay to Mr. Turner, and the specimens are the more interesting for being in fruit, which Mr. Dillwyn, the only author who has published this species, seems not to have known. Mr. R. Brown, Librarian to the Linnæan Society,

[[illegible]]

[illegible] MINERVA [illegible]

[illegible] Corallina.

[illegible] Esq.

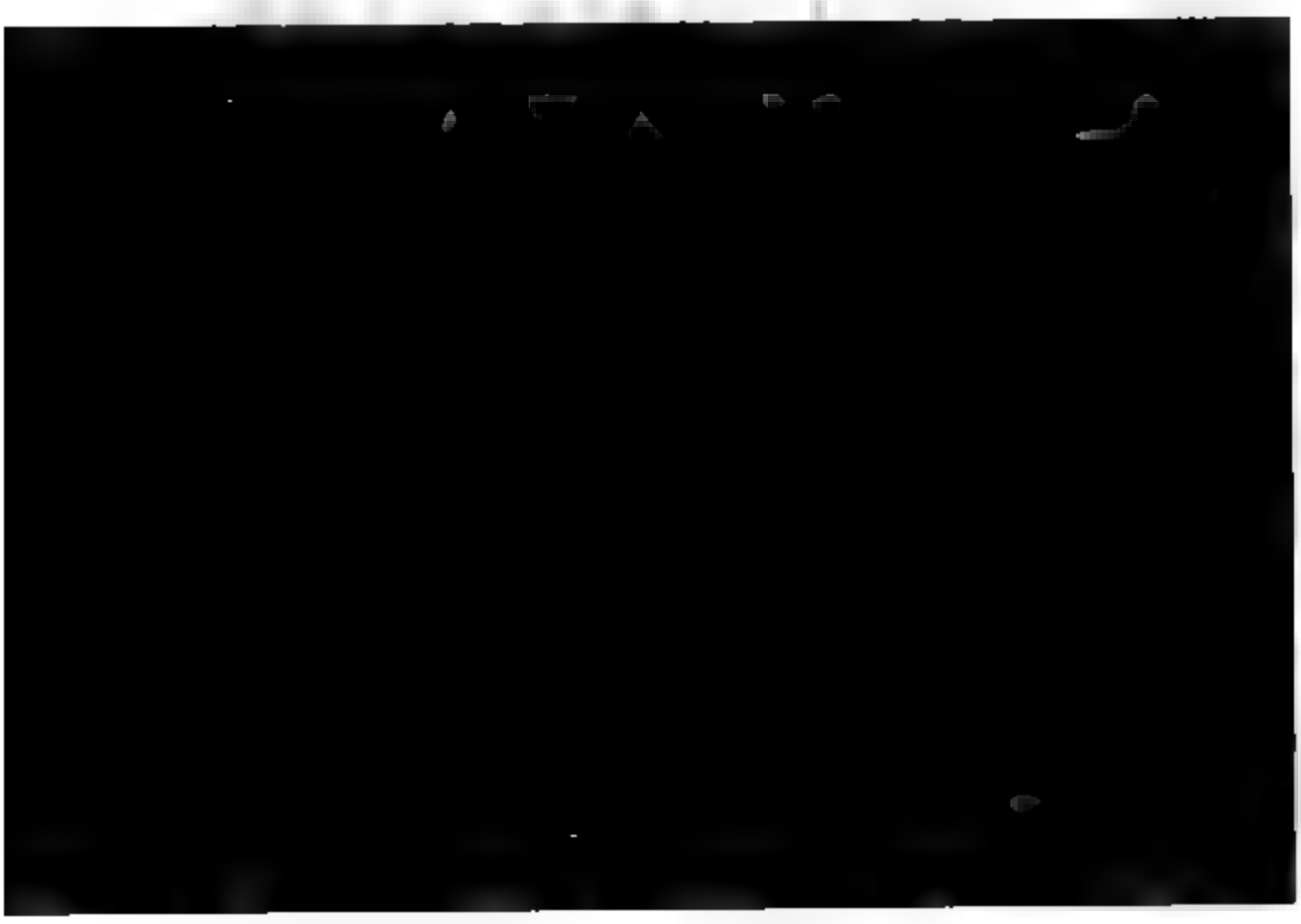
Spec. Char. [illegible] [illegible] round, solitary, [illegible], proceeding from the frond, but [illegible] it.

Spec. Char. Jointed, branched, rough; branches alternate, many pinnate, the ultimate ones tufted, [illegible]. Cavities [illegible], [illegible], red.

Syn. [illegible] *Engl.* 603. *With.* v. 4. [illegible] *Engl.* [illegible]. *Dacq. H. Sac. fasc.* 15. 25.

C. [illegible] *Lightf.* [illegible].

THIS [illegible] Corallina is frequently thrown up on the sea shore. It was first well described by Mr. Ellis in the [illegible] volume of the Philosophical Transactions, by the name of [illegible]. It is easily known by the roughness of its main stem, in general very [illegible], but more especially the vivid [illegible] of its [illegible] branches. Every part is jointed, more



CONFERVA elongata.

Long-jointed Conferva.

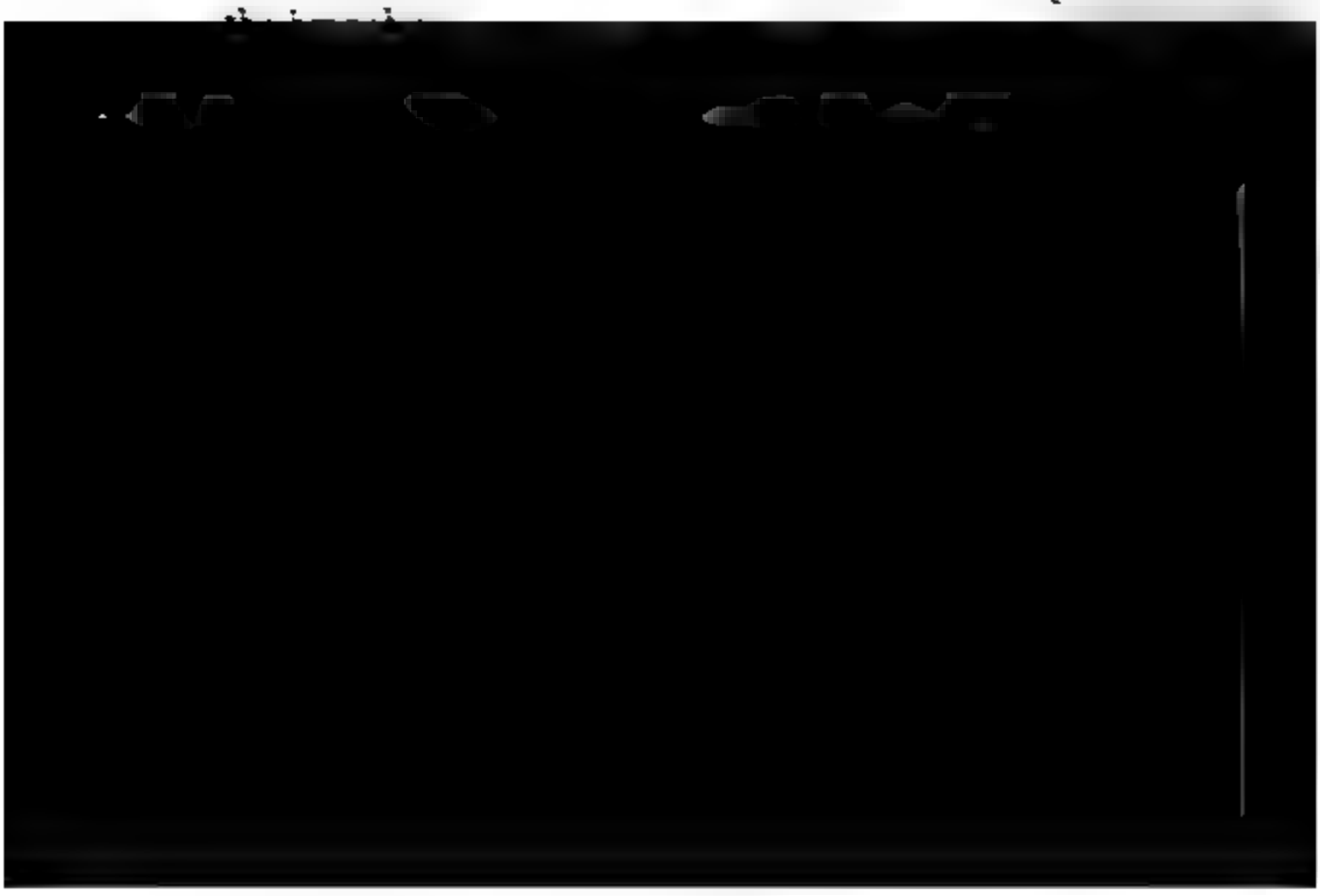
CRYPTOGAMIA Alge.

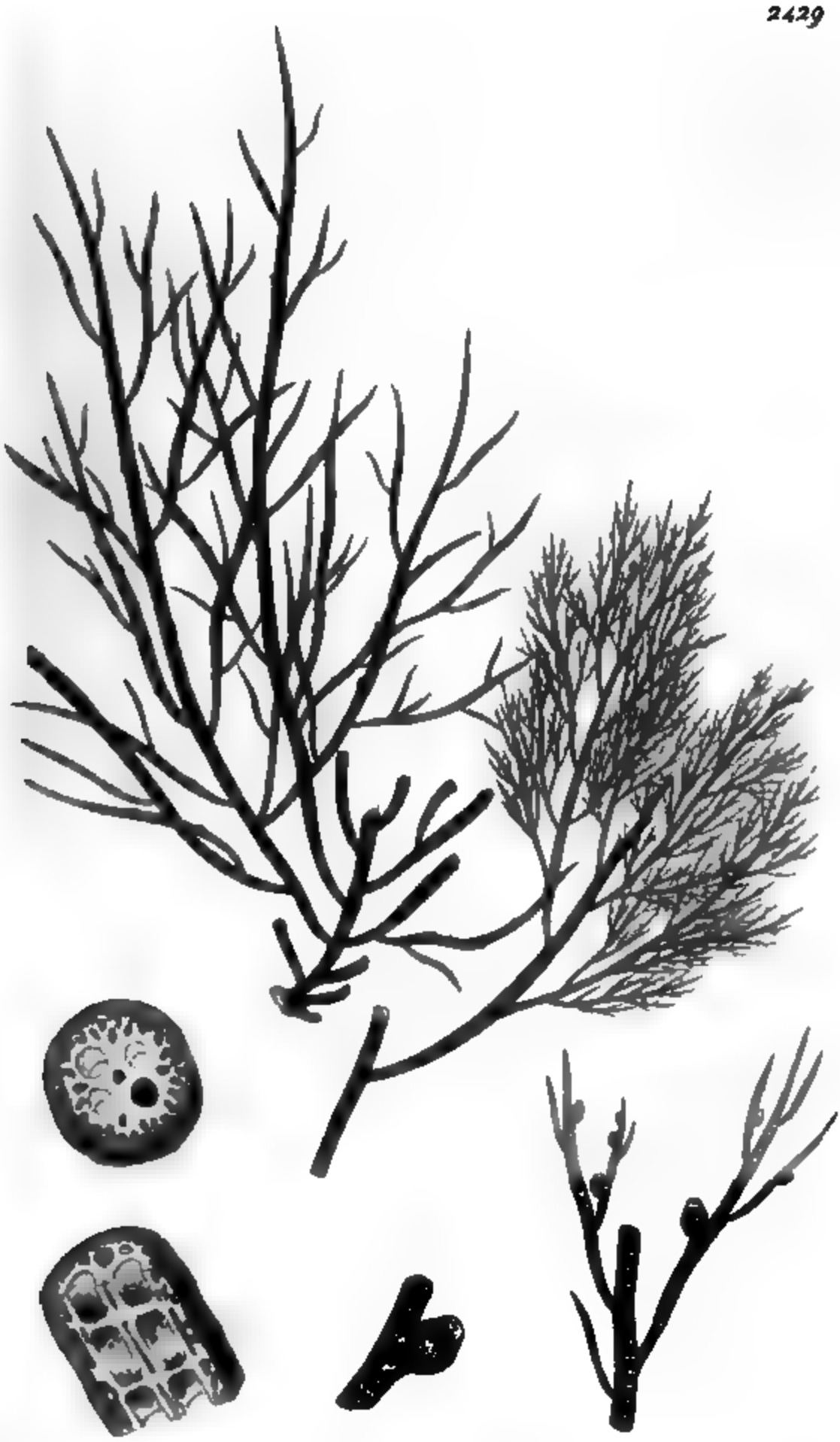
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish brown. Filaments very much branched, with elongated taper points, diffuse, cartilaginous, reticulated with veins. Joints much broader than long, compound, with four central tubes. Capsules lateral, ovate, sessile.

SYN. Conferva elongata. *Huds.* 599. *With.* v. 4. 157. *Hull.* 333. *Dillw. Syn.* 80. *Conf. t.* 33.

COMMON on the sea shores of Britain, and the largest of its genus, though not the longest, found here, or probably any where else. Mr. Borrer sent it with capsules in October. Mr. Dillwyn says this is often called the Lobster-horn Conferva, in allusion, as it seems, to the tapering and jointed aspect of





[redacted]

[174]

[illegible] polymorpha.

[illegible]

[illegible]: *Agar.*

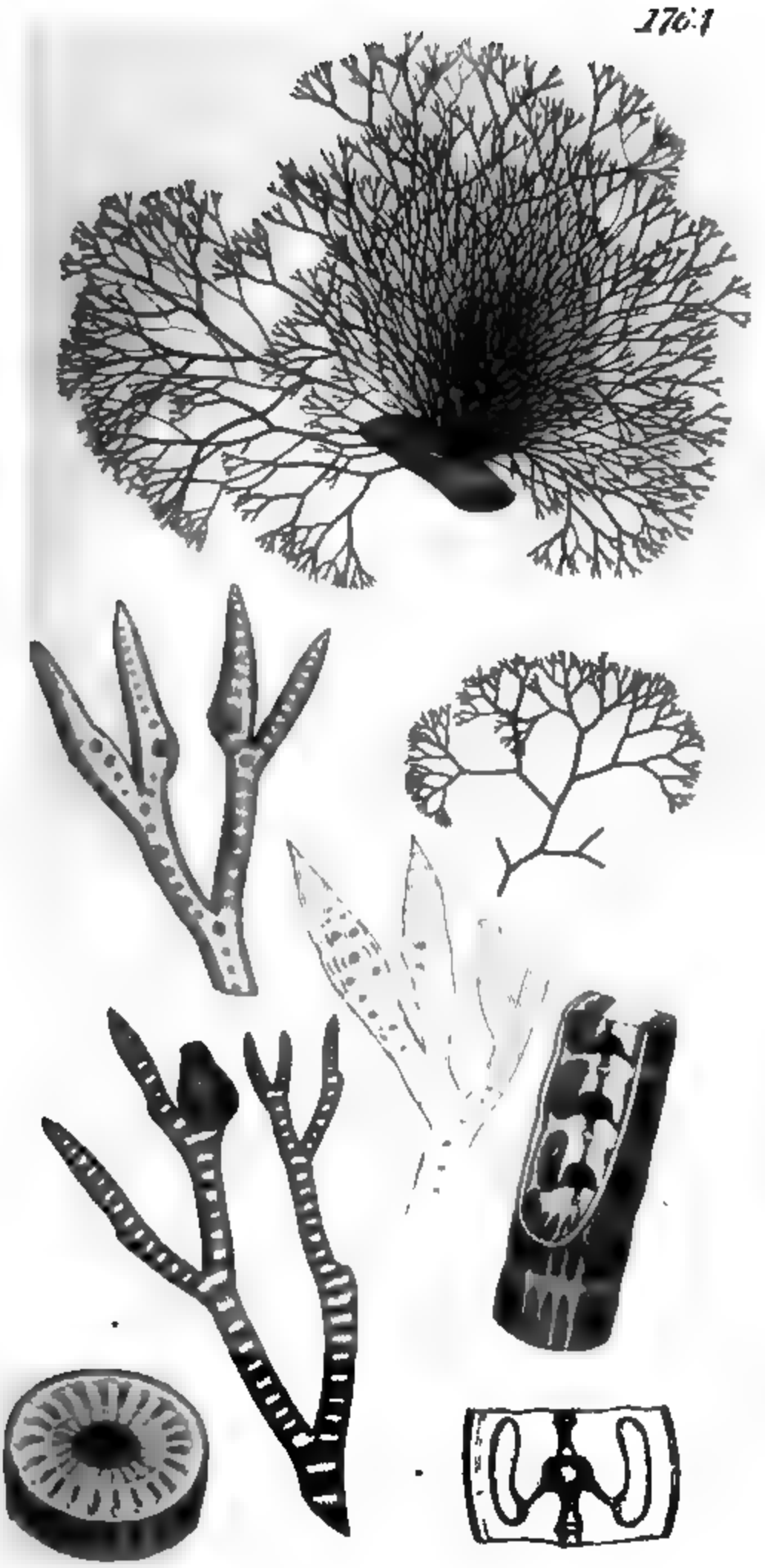
[illegible] Stem [illegible] hence monitors within the substance of the [illegible] or outer bark, or in closed tubercles [illegible]

[illegible] Stem [illegible] Internal bark. Filaments very stock [illegible] cartilaginous. [illegible] than long, pervaded by a central [illegible] Capsules [illegible] solitary, sessile, [illegible] the summits of the branches.

[illegible] *F.* 1696. *Hudson.* [illegible] 555. *Light.* 989. [illegible] *F. Dan.* t. 395. [illegible] *Dill. Musc.* 92. [illegible]

[illegible] brevibus et [illegible] *Ray Syn.* 61. [illegible] t. 2. 175. [illegible] *Syn. Fung.* [illegible] 515. *Herb.* [illegible]

VERY [illegible] the sea and [illegible] of rivers, growing [illegible] *F.* [illegible] 2 or 3 [illegible] filaments [illegible] making a [illegible] surface at the [illegible] These filaments are thickly jointed, the [illegible]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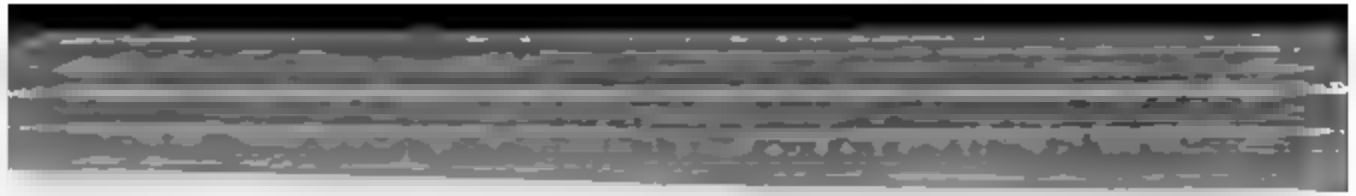


97

CONFERVA Brodiæi.

Brodiæan Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish brown. Filaments very much branched, striated, elongated. Subdivisions scattered, spreading, many-cleft, clustered; their joints longer than broad; those of the principal branches obliterated. Capsules ovate, sessile, lateral or axillary, solitary.

SYN. Conferva Brodiæi. *Dillw. Syn.* 81. *Conf. t.* 107.

COLLECTED by Miss Hutchins in Bantry bay, in June 1807. We are obliged to that lady, and to Mr. J. T. Mackay, for specimens of this rare species, which was first detected by Mr. Brodie in Scotland.

It is one of the striated, or compound-jointed, tribe, to which

Published by J. & E. Lowry &c.

CONFERVA fucoides.

Brown Fucus-like Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brown, capillary, rigid, bushy and much-branched; the ultimate divisions awlshaped, alternate. Joints as broad as long, compound. Capsules lateral, sessile, solitary, globose.

SYN. Conferva fucoides. *Huds.* 603. *With.* v. 4. 141. *Hull.* 334. *Dillw. Conf.* t. 75.

Ceramium violaceum. *Roth. Catal.* v. 1. 150. t. 8, *f.* 2.

SENT by Mr. Turner from Yarmouth, and by Miss Biddulph from Southampton, late last autumn. The authority of the name, which could scarcely have been put out of doubt by Hudson's work alone, rests on original specimens in the hands of the Rev. H. Davies and A. Menzies, Esq., as we learn from Mr. Dillwyn, on whom also we rely for the certainty of Dr. Roth's synonym, though the excellent description of the latter leaves less room for hesitation. We do not

May 1 1817. Published by Ed. Gardner London

77

CONFERVA nigrescens.

Blackish Compound-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Blackish, much and alternately branched. Branches elongated; the ultimate ones short, crowded, awlshaped. Joints rather broader than long, compound.

SYN. Conferva nigrescens. *Huds.* 602. *With.* v. 4. 141. *Hull.* 334.

WE have received this from Mr. Turner of Yarmouth, and also from the Scottish coast by favour of Mr. Brodie, in September last. It appears by the authors above quoted to be common in Devonshire and Cornwall.

The fronds form dark blackish dense tufts, from 4 to 6 inches in length, consisting of long principal hard threads, very sparingly branched, but bearing innumerable crowded

1717

[2365]

CONFERVA urceolata.

Pitcher-fruited Compound Conferva.

CRYPTOGAMIA Algæ.

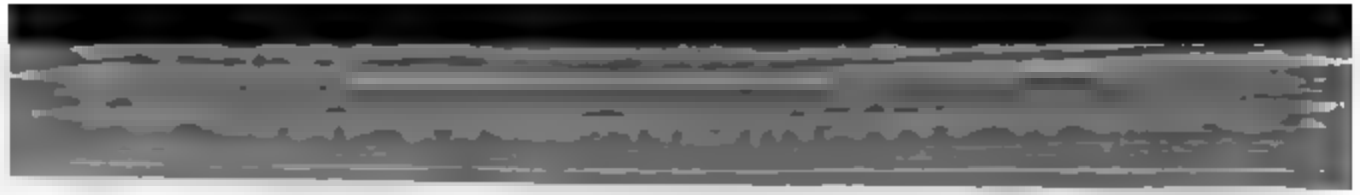
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dark red brown, capillary, bushy, and much branched; the ultimate divisions short and spreading. Lower joints much longer, upper shorter, than broad, compound, of few tubes. Fruit pitcher-shaped.

SYN. Conferva urceolata. *Dillw. Syn.* n. 156. *t.* G.
C. nigrescens. *Huds.* 602?

GATHERED on the Scarborough beach by Sir Thomas Frankland, bart., who assures us it is the real *C. nigrescens* of Hudson, our *t.* 1717 not being such. To this we have nothing to object, and should readily have altered that name, had not Mr. Dillwyn adopted it, at the same time giving so excellent an appellation to the present *Conferva*, from a ma-


2365



101.

CONFERVA fibrata.

Fibrous-branched Conferva.

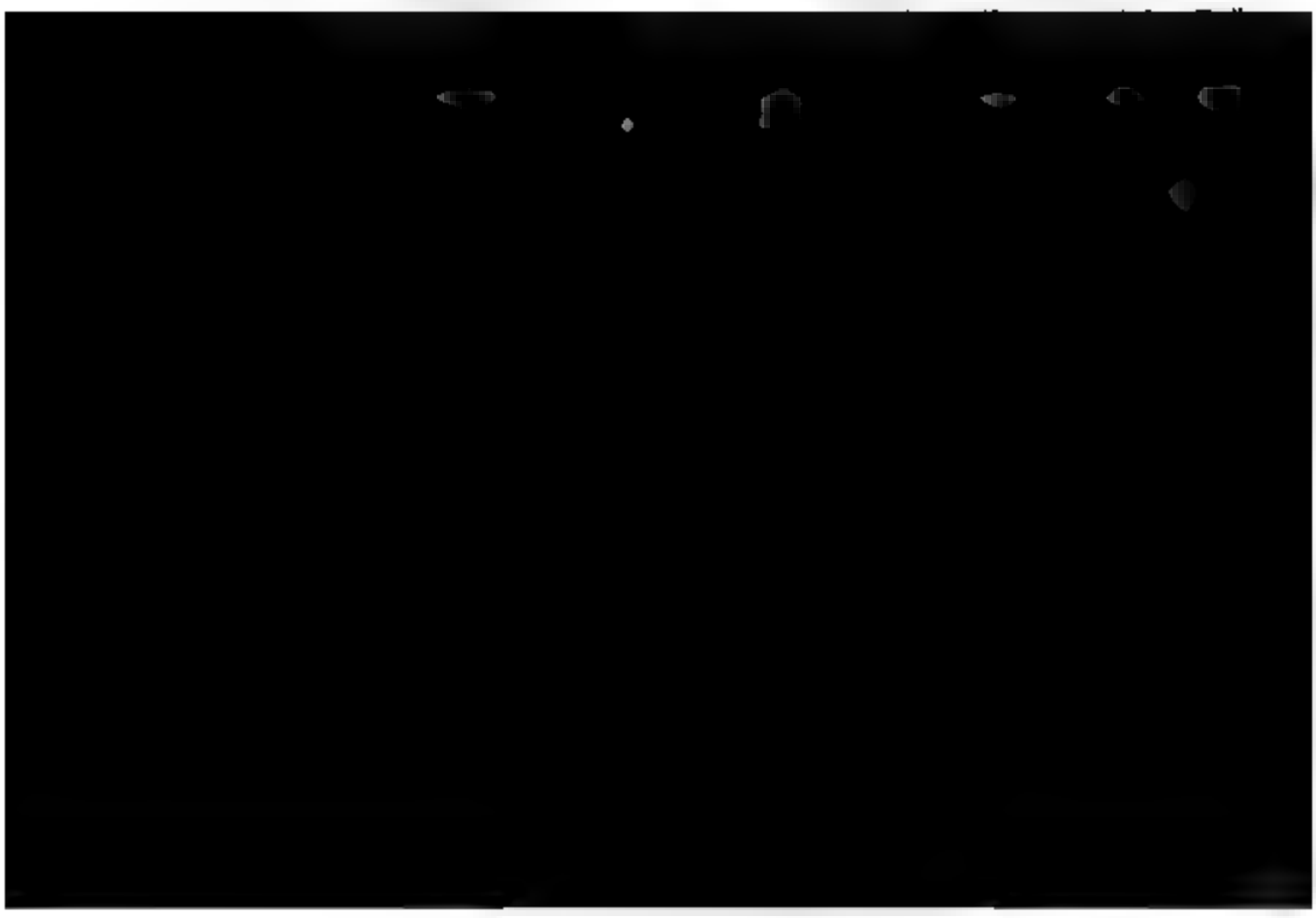
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purple, much and alternately branched. Branches capillary; the ultimate ones crowded, very slender, pellucid, white. Joints as broad as long, compound.

SYN. Conferva fibrata. *Dillw. Syn. n.* 159. *t.* G.

FOUND by our often-mentioned friend Mr. Brodie, growing on various submarine plants near Forres. It consists of dense purple tufts, about 2 inches high, much branched in an alternate order, the main stems and branches proving, when magnified, to be formed of compound joints, like those of *C. byssoides*, *t.* 547, *nigrescens*, *t.* 1717, and *polymorpha*, *t.* 1764,



CONFERVA nigra.

Slender Compound-jointed Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Reddish black, much and alternately branched, slender, rigid. Ultimate branches short, awlshaped, sometimes clustered. Joints twice as long as broad, compound. Capsules lateral, solitary, ovate.

Syn. Conferva nigra. *Huds.* 595. *With.* v. 4. 131. *Hull.* 331. *Dillw. Syn.* 39 *and* 86, *n.* 162.

C. atro-rubescens. *Dillw. Conf. t.* 70.

OUR liberal friend Sir Thomas Frankland having furnished us with an authentic collection of many of Hudson's marine plants, which he and the Rev. H. Davies are among the very few people now living, who are competent to explain, we have confirmed the above synonyms. Our specimen was found by Mr. W. Borrer at Brightlingstone, in July, 1811, nor is the plant uncommon. A strict affinity exists between this species, *nigrescens, t.* 1717, and *fucoides, t.* 1743, and it ought to stand next to them in a natural series.

The joints of this are rather longer, and composed of fewer tubes laterally than either of those, but we do not presume to lay much stress on these circumstances. Its short, lateral, awlshaped, clustered branches, which do not bear the fruit, are indicated by Hudson and Dillwyn as characteristic, but we have not always met with such. The capsules are scattered laterally and solitarily upon branches that are subdivided in an alternate manner, and are small, ovate, abrupt, reticulated; sessile in our specimens, but Mr. Dillwyn has found them stalked. The colour of the whole is reddish brown in a fresh state, turning black by drying, as in all this tribe.

3.

CONFERVA byssoides.

Tufted Conferva.

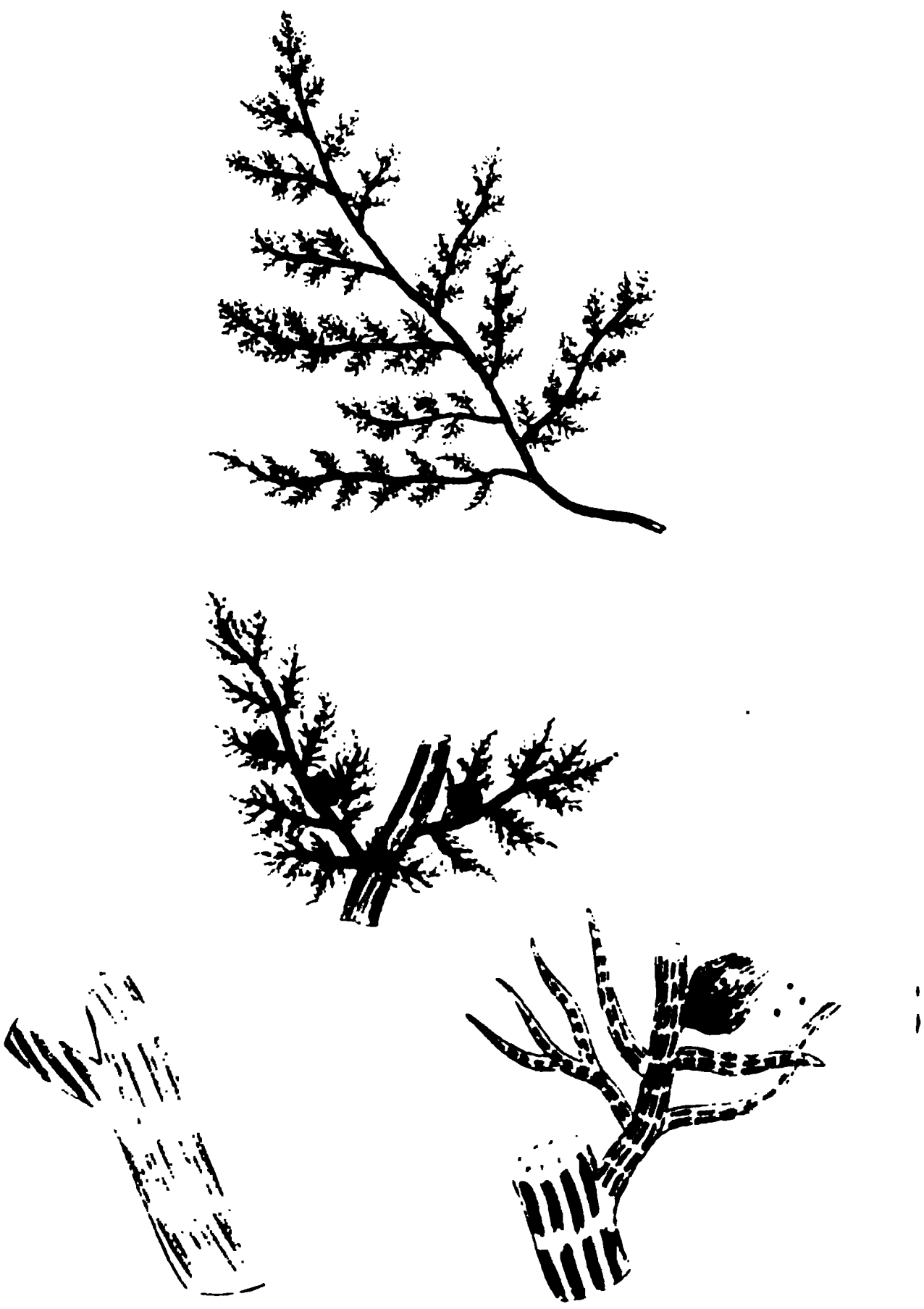
CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

Spec. Char. Purplish brown, doubly branched, obscurely jointed, thickly set with minute, doubly branched, and finely jointed tufts. Capsules from those tufts, solitary, globose, dark brown.

Syn. Fucus byssoides. *Goodn. & Woodw. in Linn. Trans. v. 3. 229.*

FOR this elegant, though not very uncommon, sea weed we are obliged to Mr. D. Turner, who found it on the shore at Yarmouth, with its fructification, in August. In compliance with his opinion and that of the late Mr. Lightfoot, confirmed indeed, beyond a doubt by our own examination, we remove it from the *Fuci*, with which Dr. Goodenough and Mr. Woodward, not without hesitation, have associated it. Those gentlemen remark, that though "all the branches "seem jointed, those joints are observable only where there "is a branch, or where one has issued forth;" which however holds good only in the stem and leading branches. This *Conferva* is remarkable for the series of [illegible]



152.

[2312]

CONFERVA Griffithsiana.

Aggregate-fruited Conferva.

CRYPTOGAMIA Alga.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Pale red, repeatedly branched: little branches solitary or clustered, very short, simple, awl-shaped. Joints as broad as long. Capsules on the little branches, sessile, globose, sometimes aggregate.

THIS undescript *Conferva* was first sent to Mr. Sowerby by Miss Biddulph, in March 1800, from Southampton, since which time we have repeatedly received it, later in the season, from that lady, as well as from Mr. Turner; who, as we have called another species *Biddulphiana*, wishes this to be dedicated to another eminent observer of marine plants, Mrs. Griffiths: to which we cannot but most readily agree.

The plant before us, one of the branched, red, marine tribe,

CONFERVA parasitica.

Parasitical Feathered Conferva.

CRYPTOGAMIA Algæ.

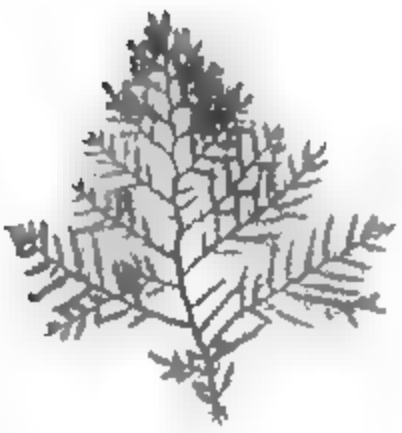
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Purplish brown, branched, doubly pinnate. Fructifications axillary, solitary, oblong.

SYN. Conferva parasitica. *Huds.* 604. *With.* v. 4. 142. *Hull.* 385.

FOR this rare* Conferva, found growing on other submarine plants on the Yorkshire coast, we are obliged to Sir Thomas Frankland, who knows it to be the species described by Hudson, the only original writer who mentions it.

The frond grows from a small branched root to the height of an inch or more, and is very slender, round, alternately branched, the branches doubly and alternately pinnated, their ultimate segments acute. The whole has the same jointed and tubular structure as *C. lyssoides*, v. 8. *t.* 547. The little branches are often studded with warts, which are seen in



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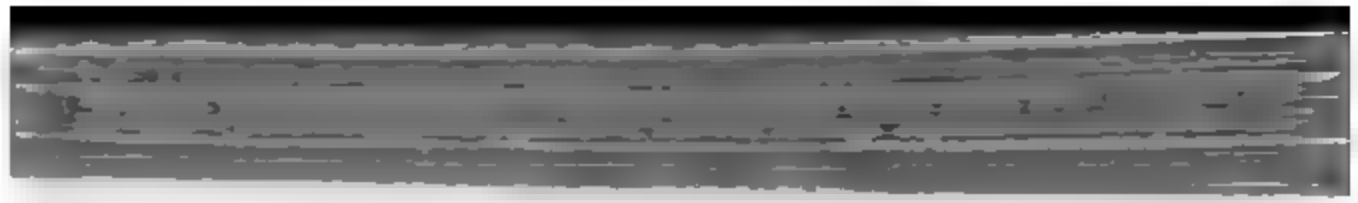


106

CONFERVA pennata.

Pinnated Brown Conferva.

CRYPTOGAMIA Alga.

Gen. Char. *Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.*

Spec. Char. Olive brown, much branched. Branches densely pectinated. Joints broader than long. Partitions dark-coloured. Capsules roundish, scattered, sessile or stalked.

Syn. Conferva pennata. *Huds.* 604. *With.* v. 4. 142. *Hull.* 335. *Dillw. Conf.* t. 86. *Syn.* 87. n. 166.

WE have received this from Miss Biddulph at various times, and lastly from Mr. W. Borrer, who has added the larger variety, with stalked rather oblong fruit, found by himself at Beachey head, as mentioned in Dillwyn's *Synopsis*.

C. pennata grows in the sea, on rocks, corallines and submarine plants, and has, according to Mr. Dillwyn, been generally overlooked for a small or bad state of *C. scoparia*, *t.* 1552, as indeed it might well be, without examination. It appears by Hudson's reference to be preserved in Petiver's *Hortus Siccus* for the *C. marina pennata* of Dillenius in Ray's *Synopsis*, which is really *scoparia*.

The plant before us composes bushy tufts, from half an inch to two inches high, of an olive brown, and is twice or thrice branched, the ultimate branches ranged in a double crowded series, opposite to each other, and spreading, so as to be truly pectinated. Sometimes they vary a little from this precise order. The partitions are dark, and the joints generally broader than long. The capsules are round or a little oblong, of a rather darker brown, scattered, either sessile or more or less stalked. They seem to strengthen the probability of what we have drawn in *t.* 1552 being the fruit of *C. scoparia*.

2330

107.

CONFERVA scoparia.

Clustered Brown Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Olive brown, hairy, much branched and fasciculated. Ultimate divisions awlshaped, alternate.

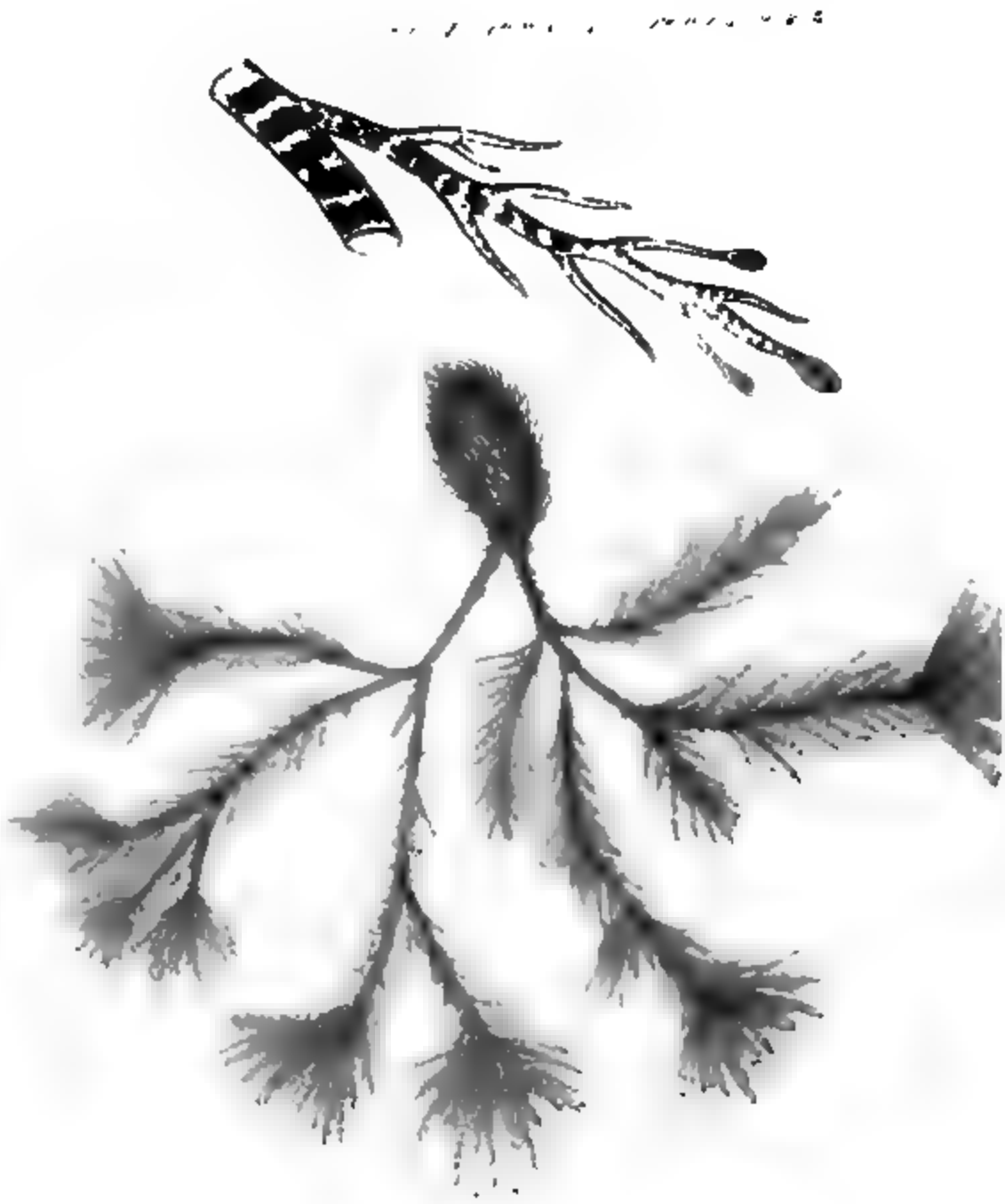
SYN. Conferva scoparia. *Linn. Sp. Pl.* 1635. *Huds.* 595. *With. v.* 4. 131. *Hull.* 331. *Lightf.* 981.

C. marina pennata. *Dill. in Raii Syn.* 59. *Musc.* 24. *t.* 4. *f.* 23.

FREQUENT on the sea coast, growing under water upon shells and pebbles, with which it is thrown up on the beach at all seasons.

The colour of the whole plant is a dull olive brown, when old or dry verging towards a rusty hue. From a large hairy root or base sprang many stems, 3 to 6 inches high, which are cylindrical, clothed with small entangled jointed fibres, so as to appear hairy, and much branched and subdivided in their upper part. Their ultimate branches are clustered, somewhat pectinated, the segments alternate, and tapering. Every branch and segment is closely but not very conspicuously jointed, the joints twice as broad as they are long.

In some specimens the tips of the youngest branches are obtuse, a little swelled, seeming to contain a brown substance in a pellucid membrane, and looking to the naked eye as if they had been burnt. We dare not assert this to be the fructification, which no botanist has hitherto described; but the same appearance is observable on the Linnæan specimens, as well as on those in our plate.



1551

[1765]

VAUCHERIA sessilis.

Sessile-fruited Vaucheria.

CRYPTOGAMIA *Algæ.*

Gen. Char. *Anthera* awlshaped, incurved. *Capsulæ* adnatæ, in the anthera, ovate, single-seeded, in pairs or solitary.

Spec. Char. Capsules in pairs and solitary, sessile on each side of the anthera.

Syn. Lomentaria sessilis. *Vaucher Conf.* 51. *t.* 2. *f.* 7.
Conferva vesicata. *Dillw. Conf.* *t.* 74; without the anthera.
Conferva capitata. *Roth. Catal.* *t.* 3. 190.

Of the ingenious work of M. Vaucher upon fresh-water Conferva we have already spoken, p. 1654, 1655, &c. He is the first botanist who ascertained the true fructification and mode of propagation of the genus before us, called by him *Lomentaria*, a name which has justly given place to that of *Vaucheria*, original previously * by the learned French botanist M. Decandolle for this genus, and under which, I am told, it has recently appeared in his *Flore Française*. It consists of several species, distinguished by M. Vaucher according [illegible] the form of their capsules and [illegible] the anthera, notwithstanding the [illegible] of Dr. Roth, who joins them all together as species of *Conferva*, to wit in genus, if itself founded [illegible] have no affinity, nor do they agree in general character. We conceive *Vaucheria* to be one of the genera, in our present state of knowledge, can with most [illegible] be separated from *Conferva*.

We received our fresh specimens in February 1807, from Sussex, by favour of Mr. Borrer. The plant covers the surfaces of pools in broad green patches, and consists of capillary, branched, smooth, rather elastic, tubular filaments, filled with a green pulpy substance, which often separates in masses, and gives the filament a jointed appearance. Capsules sessile, commonly in pairs, ovate, each containing one large green seed, and having between them one awlshaped body, at length recurved, asserted by M. Vaucher to be the anthera. Young plants, germinating from the seeds, are represented at the lower part of our plate. Vesicles, of the nature of galls perhaps, inhabited by Muller's *Cyclops Lupula*, are often found on the branches, see *a*, *a*, with a dark-coloured animal besides.

* See *Vaucher*, 25.

1765

107.

[1766]

VAUCHERIA geminata.

Twin-stalked Vaucheria.

CRYPTOGAMIA Alge.

GEN. CHAR. *Anthera* awlshaped, incurved. *Capsules* adjoining to the *anthera*, ovate, single-seeded, in pairs or solitary.

SPEC. CHAR. Capsules in pairs and solitary, on opposite partial stalks, growing out of one common stalk with the anthera.

SYN. Ectosperma geminata. *Vaucher Conf.* 29. *t.* 2. *f.* 5.

FOUND with the preceding in Sussex, and sent by Mr. W. Borrer. We believe indeed that neither species is rare; but this gentleman has first in England verified the observations of M. Vaucher concerning both.

No specific distinction can be found between the filaments of this and *V. sessilis*, but the fructification is surely distinct enough to form a character. One common stalk bears both organs. The anthera is terminal. The capsules grow on opposite partial stalks, and in one instance Mr. J. D. Sowerby has met with 2 pairs of them, one above another. Sometimes, on the contrary, there is only one capsule to an anthera, as in the former species.

The dark-coloured animal, mentioned in the last page, is common on both species, as well as the *Cyclops Lupula*. Is the former the parent animal, and are the small pale ones its young progeny?

M. Vaucher refers to this genus our *Conferva velutina*, *t.* 1556, of which Micheli has first imperfectly observed the capsules. See *Mich. Gen. t.* 89. *f.* 5, G.

RIVULARIA Opuntia.

Indian-fig Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

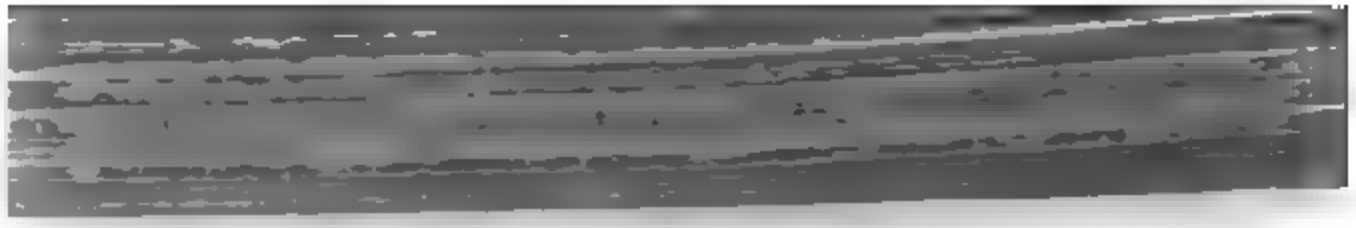
SPEC. CHAR. Compressed, branched, red, jointed; joints elliptical, confluent. Internal filaments repeatedly forked; their ultimate joints shortened, filled with seeds.

SYN. Fucus Opuntia. *Gooden. and Woodw. Tr. of L. Soc. v.* 3. 219. *Turn. Syn.* 387. *Hull.* 326.
F. repens. *Lightf.* 961. *With. v.* 4. 91.
Ulva articulata β. *Huds.* 569.
Tremella marina cæspitosa, segmentis tenuibus. *Dill. Musc.* 50. *t.* 10. *f.* 9.

RECEIVED by favour of Mr. Turner from Hastings, Sussex. It grows on exposed marine rocks, always, according to that gentleman, between high- and low-water marks, forming small creeping tufts. The fronds are entangled, much branched, compressed, solid, or at least not, like *Fucus articulatus*, *t.* 1574, tubular. A transverse section under the microscope shows their internal spongy substance to be a congeries of horizontal, repeatedly forked, jointed filaments, whose innumerable, gradually shorter, ultimate joints, full of red juice, while the primary ones are longer and colourless, meet at the surface of the frond, and give it a dotted aspect. Its curious structure was first discovered by Mr. J. D. Sowerby, and leads us to refer the plant to *Rivularia*, see *t.* 1818. The excellent writers in *Linn. Trans. v.* 3, have so nearly approached this discovery as to inform us that "the uppermost joints perform the office of tubercles (with respect to *Fuci* in general, and are pregnant with extremely minute crowded seeds." Whether these seeds be more numerous, or more perfect, in the lateral warts, observable in our specimen on some of the upper joints, one of which is cut across in our magnified section, we cannot accurately say.

We must remark that *Fucus Wigghii*, *t.* 1165, proves on more accurate examination to be a true *Rivularia*, the account of its seeds hitherto given being incorrect.

Spreadbill Published by J. Sowerby London



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RIVULARIA vermiculata.

Worm-shaped Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Cylindrical, much branched, brown; branches scattered, subdivided, crooked. Internal filaments compound and divaricated; their ultimate branches clustered, beaded, thickened upwards. Fruit obovate, sessile at the base of the beaded branches.

SENT from the north-east coast of Ireland, near Larn, by Mr. Drummond, in August 1806. The specimen in our plate was found at Brighthelmston in July 1807, by Mr. W. Borrer. We cannot refer it to any plant described by British writers, who would all doubtless have reckoned it an *Ulva*; neither do we find any suitable description in Roth, to whose genus *Rivularia* it must surely be referred, unless the fruit, being separate from the filaments, should constitute a new genus, on the principle of that ingenious author's *Ceramium*. We had rather however wait till the fruit of all the original *Rivulariæ* are better ascertained.

This [illegible] is 4 or 5 inches high, olive brown, very

Jan 1st 1819 Published by Jas Sowerby London

112.

RIVULARIA verticillata.

Whorled Pink Rivularia.

CRYPTOGAMIA Algæ.

Gen. Char. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

Spec. Char. Cylindrical, much branched, very gelatinous, pale pink; branches alternate; the ultimate ones very numerous, of equal thickness. Internal filaments whorled, repeatedly forked. Fruit obovate, lateral.

Syn. Ulva verticillata. *With. v.* 4. 127. *Hull.* 313.

FOUND last July, on the beach at Brighthelmstone, by Mr. W. Barrer. Miss Hutchins sent a drawing of a plant of the same species to Mr. Turner, from Ireland, observing that it was "the most gelatinous plant she had ever seen." From this drawing we have copied the highly magnified fructification.

The colour when fresh is a pale pink, which becomes somewhat darker by being kept out of the water. Several very compound stems arise from one root. The branches are all alternate;

ULVA incraſſata.

Thick Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* ſolitary, ſcattered throughout its ſubſtance, under the cuticle.

SPEC. CHAR. Frond gelatinous, flat, ſinuated and toothed, green, thickened at the margin, clothed with tufted jointed filaments.

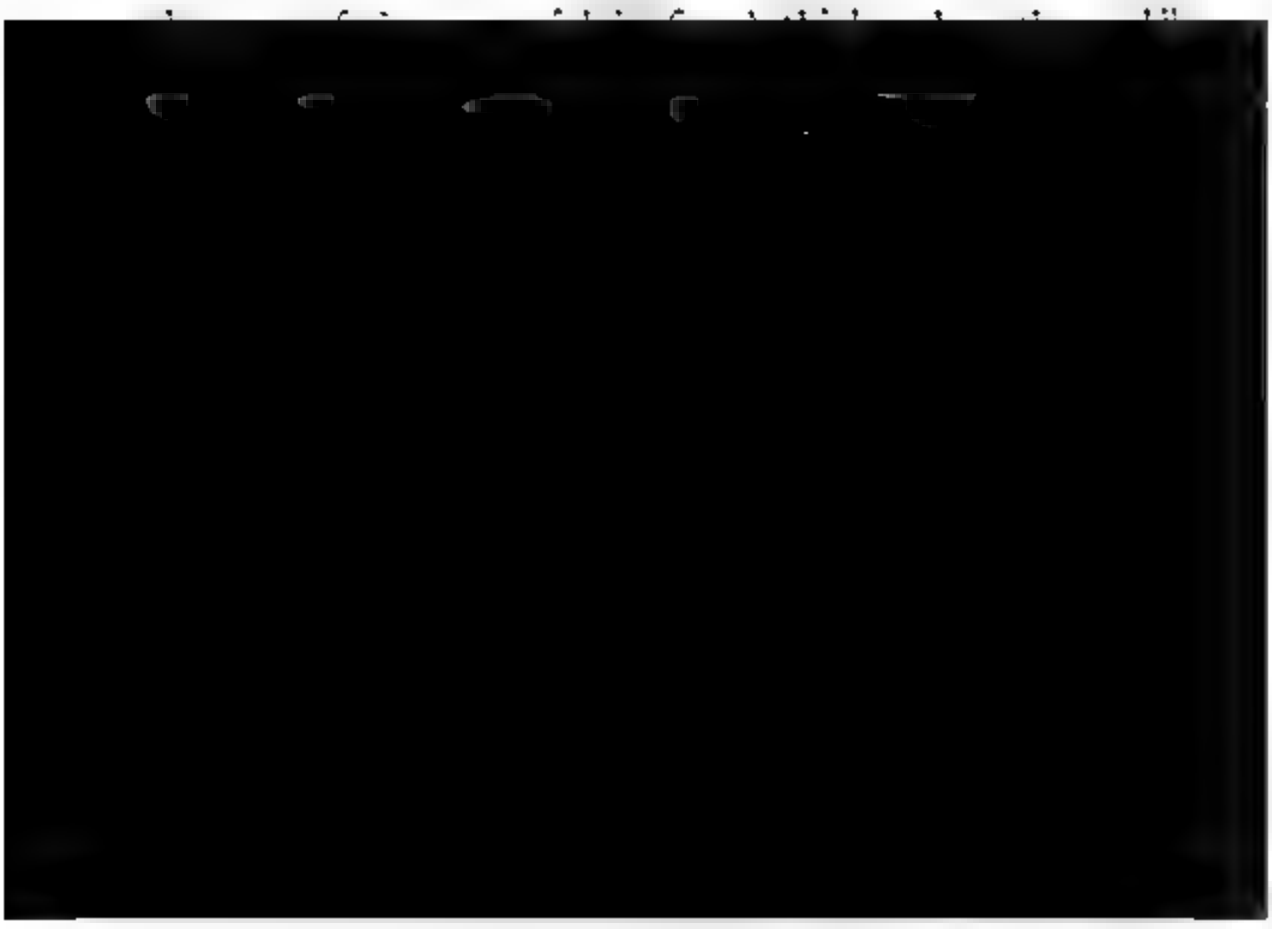
SYN. Ulva incraſſata. *Hudſ.* 572. *With.* v. 4. 124. *Relb. Suppl.* 2. 23.

Tremella incraſſata. *Hull.* 310.

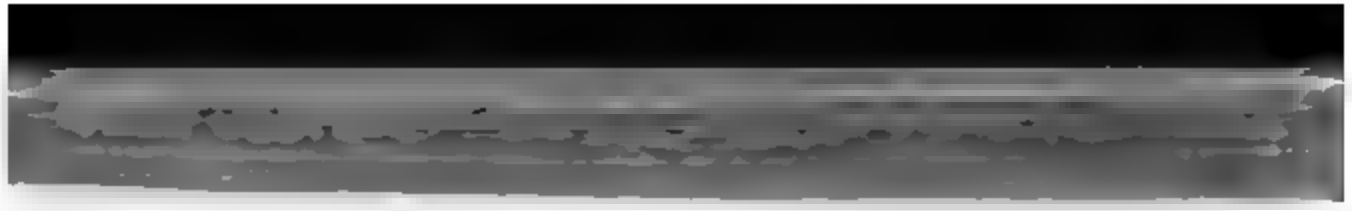
T. paluſtris gelatinoſa, damæ cornuum facie. *Dill. Muſc.* 51. *t.* 10. *f.* 10.

Conferva gelatinoſa, damæ cornua repræſentans. *Dill. in Raii Syn.* 60.

FOUND by T. F. Forſter, Eſq. growing on *Hypnum riparium*, and intermixed with *Chara biſpida*, in a pond at Finchley. The fronds are much branched and divaricated, variouſly ſinuated and toothed, compreſſed, the edge of their lower part



Lond. Published by Sol. Sowerby Smith



RIVULARIA elegans.

Elegant Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Globose, lobed, sessile, light green. Internal filaments forked and divaricated; their ultimate branches clustered and curved; their joints somewhat swelling.

SYN. Rivularia elegans. *Roth in Sims and Konig's Ann. of Bot.* v. 1. 339. *Catalect.* v. 3. 337.

Batrachospermum fucicolum. *Vaucher Conf.* 116. t. 13. f. 1.

THIS plant is found in fresh water, either running or stagnant. Mr. W. Turner sent it from the neighbourhood of Bursteemont, Sussex, in March 1806; Mr. Turner had for some years before observed it to be common about Yarmouth, and has ascertained the synonym of his learned correspondent Dr. Roth, who first established and characterized the genus of *Rivularia*, to which we have alluded in t. 20. f. 1378, and

[redacted]

Oxnaley, Published by Jas. Sowerby London

RIVULARIA tuberculosa.

Tubercular Rivularia.

CRYPTOGAMIA Algæ.

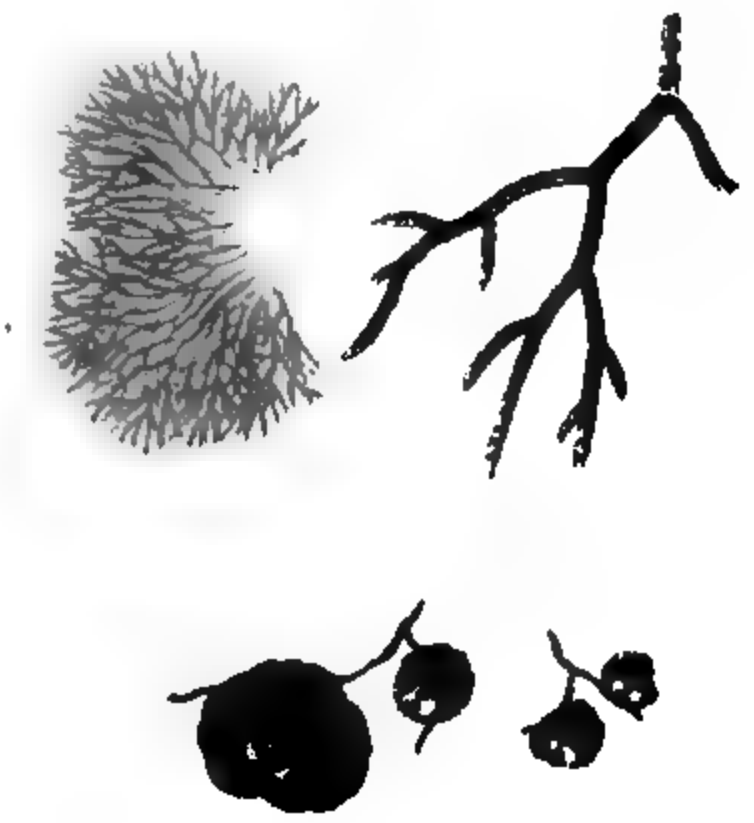
Gen. Char. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

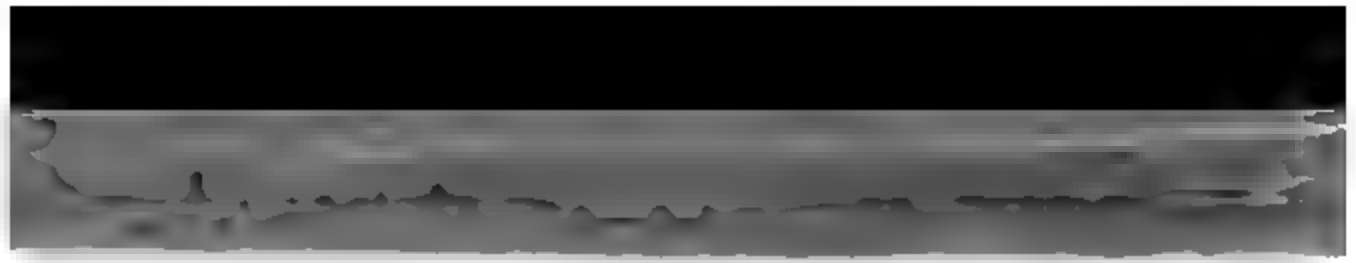
Spec. Char. Globose, unequally tubercular, concave, sessile, green. Internal filaments repeatedly branched, equal, obtuse, divaricated, entangled; their joints somewhat swelling.

Syn. Rivularia tuberculosa. *Roth. Catal.* v. 3. 341.

Collected in fresh water near Henfield, Sussex, in September last, by Mr. W. Borrer, to whom we are obliged for the reference to Roth.

This is allied to the species figured in our 14th vol. t. 968,





ULVA pruniformis.

Plum Laver.

CRYPTOGAMIA Alga.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Frond globose, gelatinous, filled with soft pulp, olive-green, clothed with awl-shaped filaments.

SYN. Ulva pruniformis. *Linn. Sp. Pl.* 1633. *Hudf.* 572. *With.* v. 4. 120. *Relb. Suppl.* 3. 14. *Abbot.* 274.
Tremella pruniformis. *Hull.* 310.

MR. HUDSON mentions the lakes of Westmoreland as the native place of this singular *Ulva*. Our specimens were collected by Mr. Dawson Turner in turf pits not far from Yarmouth.

It grows on aquatic plants under water, sessile, globose, of various sizes from that of a pea to a bullace plum, which last it frequently more exactly resembles by means of a furrow or contraction on one side. Its colour is a dull or olive green. The surface is clothed with shaggy awlshaped filaments, tapering into very slender points, which, though not jointed, evince the affinity of this plant to that in our last plate. The coat or skin of this *Ulva* is moderately thick, fleshy or gelatinous, enveloping a mass of pale soft pulp, in which Linnaeus observed the minute seeds. His description in *Fl. Suecica*, *p.* 434, is excellent, and leaves no doubt as to the identity of his plant.

1956

RIVULARIA atra.

Small Black Rivularia.

CRYPTOGAMIA Alge.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

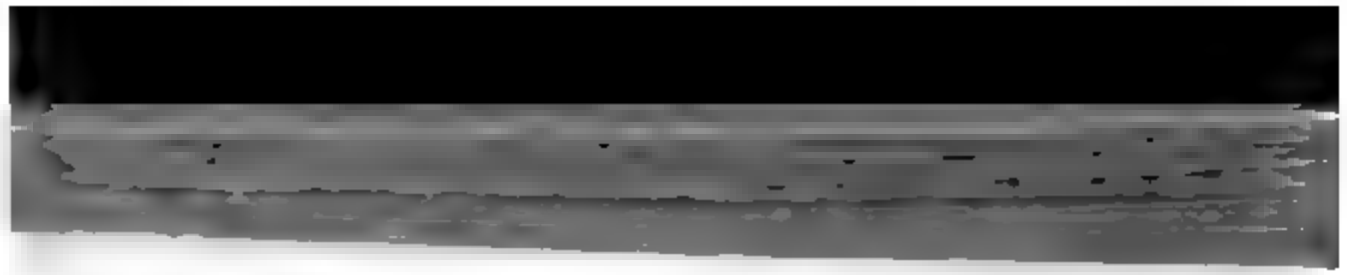
SPEC. CHAR. Hemispherical, solitary, sessile, hard, black. Internal filaments straight, compact, branched, concentric, green; their joints cylindrical.

SYN. Rivularia atra. *Roth Catalect. v.* 3. 340.

COMMUNICATED by Mr. W. Borrer, in Oct. 1806, from the piles of Yarmouth *jetty*, or *jetty*, which are constantly washed by the sea. Mr. W. J. Hooker has observed the same species on the tide-marshes at Cley.

The [illegible] compares its size to the seeds of mustard or [illegible] more or less scattered, each plant being so[illegible] [illegible], sessile, hard, of so very dark a green [illegible] a slimy gloss from the pellucid, co[illegible] superficial filaments. A perpendicular [illegible] internal filaments to be of a dull green, ra[illegible], closely compacted and parallel, but [illegible] numerous, short, cylin[illegible] describes them as few and very long.

June 1 1818. Published by Jos. Trevorly London



'19.

[1799]

RIVULARIA calcarea.

Calcareous Rivularia.

CRYPTOGAMIA Algæ.

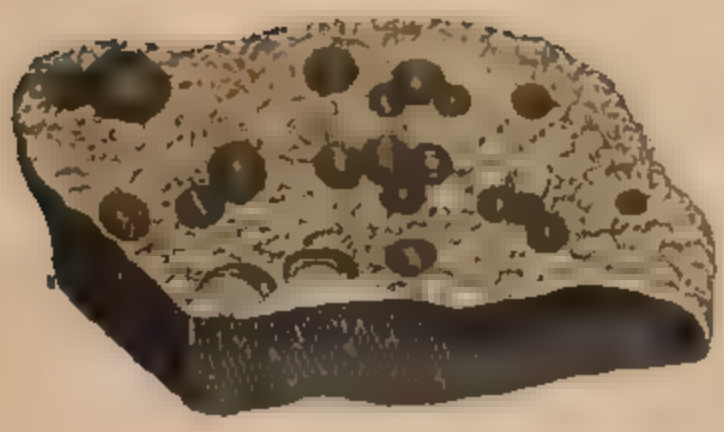
GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

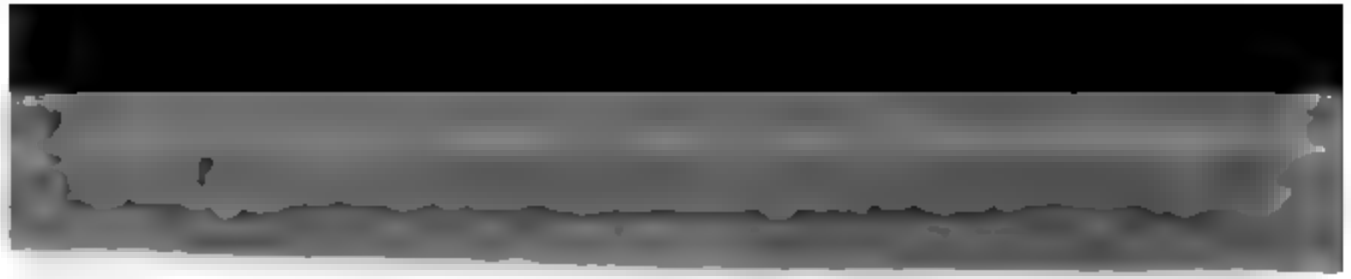
SPEC. CHAR. Hemisphærical, clustered, sessile, hard, green. Internal filaments straight, compact, entangled, simple, with scarcely any appearance of joints.

SENT by Dr. Scott from the bed of a river in Queen's county, Ireland. We have been informed by several friends that this singular production is plentiful about many water-falls in North and South Wales, Shropshire, &c. There can be no doubt of its ranking as a new species of *Rivularia*.

The fronds are sessile, round, generally clustered or aggregate, each as big as a pea, or larger, but often united into an uneven indeterminate mass. The external surface is of a rich

1799





'21.

TREMELLA mesenterica.

Plaited Yellow Tremella.

CRYPTOGAMIA Algæ.

Gen. Char. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

Spec. Char. Sessile, clustered, plaited, lobed, waved, orange-coloured.

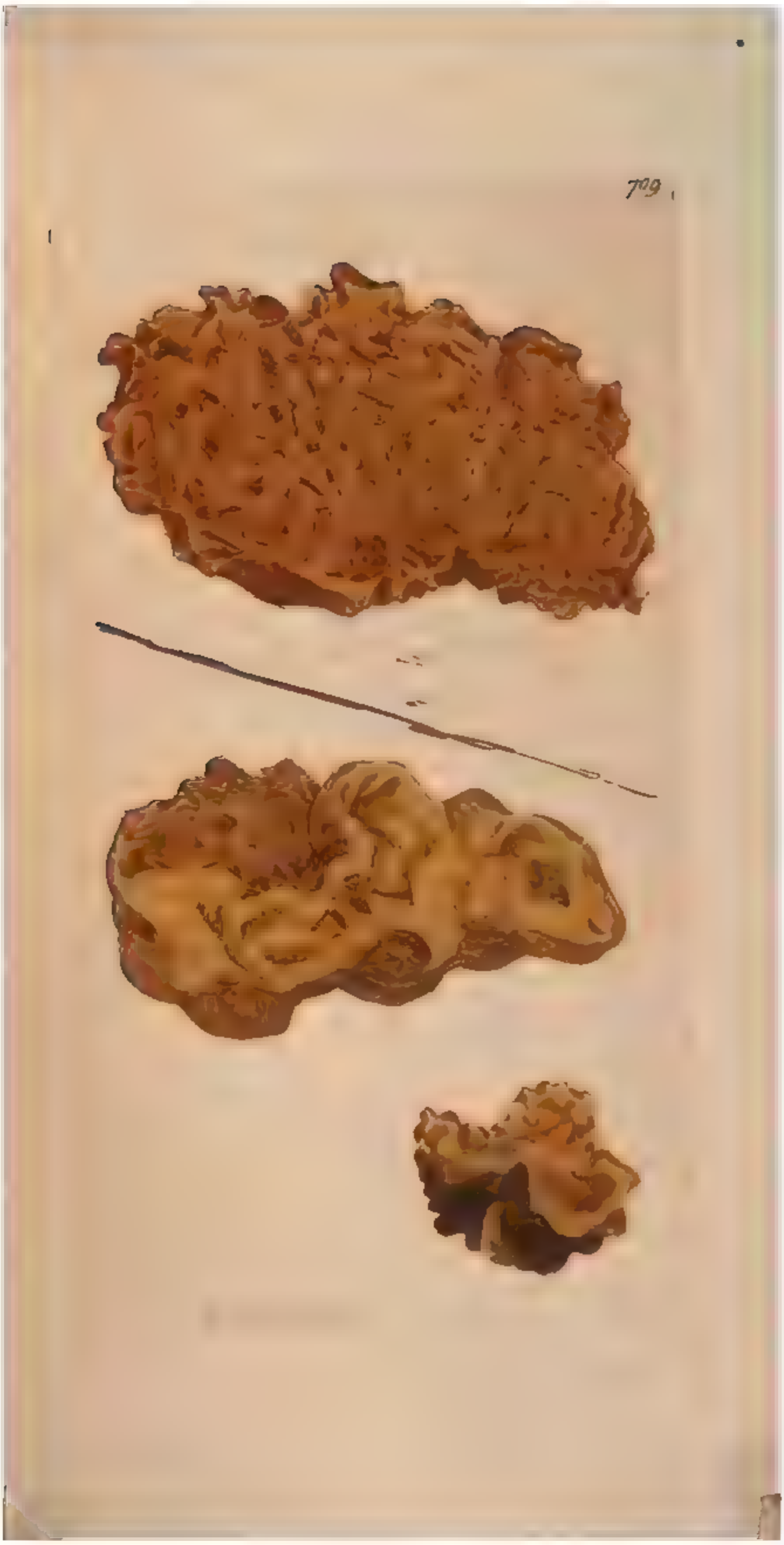
Syn. Tremella mesenterica. *Retz. Prodr.* 294. *Dicks. Crypt. fasc.* 1. 14. *With.* v. 4. 79. *Hull.* 309. *Sibth.* 391. *Abbot.* 271.

T. mesenteriformis. *Jacq. Misc. Austr.* v. 1. 142. t. 13.

T. juniperina. *Huds.* 562. *Relh.* 441.

Agaricus membranaceus sinuosus, substantiâ gelatinæ. *Raii Syn.* 21.

THIS very striking vegetable is found now and then on old branches of Oaks or other trees, or on decayed stumps


709

TREMELLA mesenterica.

Plaited Yellow Tremella.

CRYPTOGAMIA Alga.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, plaited, lobed, waved, orange-coloured.

SYN. Tremella mesenterica. *Retz. Prodr.* 294. *Dicks. Crypt. fasc.* 1. 14. *With.* v. 4. 79. *Hall.* 309. *Schrb.* 391. *Abbot.* 271.

T. mesenteriformis. *Jacq. Misc. Austr.* v. 1. 141. t. 13.

T. juniperina. *Haller.* 562. *Relh.* 441.

Agaricus membranaceus fasciatus, substantiâ gels-

1452

TREMELLA ferruginea.

Plaited Rusty Tremella.

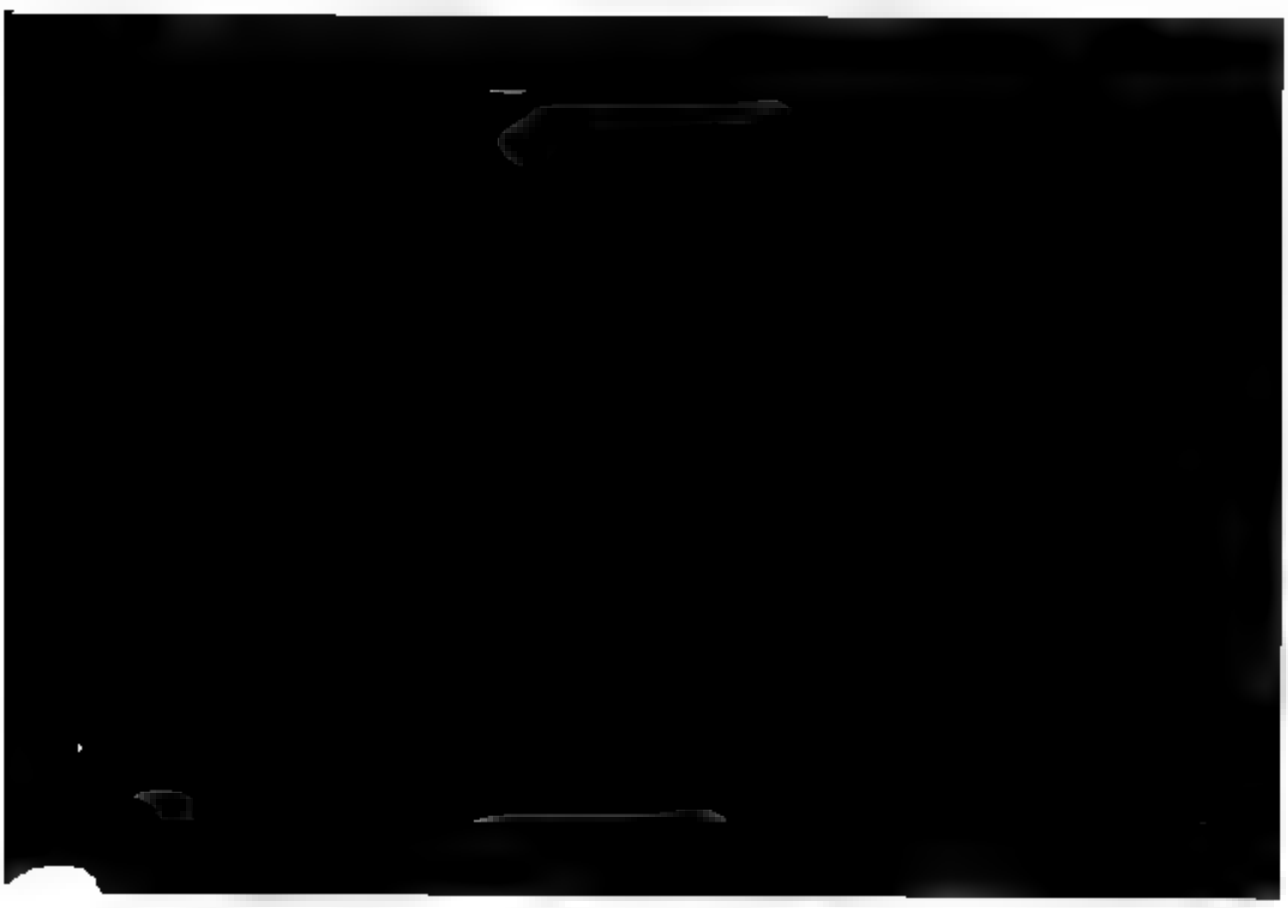
CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, lobed, waved, of a rusty brown; the surface finely pubescent.

FOUND by Mr. Crowe at Lakenham near Norwich, growing on dead wood in wet weather in winter. We can find no description nor figure applicable to it, nor has any botanist who has seen our specimens been able to refer them to any known species.

The substance is gelatinous, pliable and tender, becoming thin, shrivelled, and shapeless, when dry, reviving, though imperfectly, on a reapplication of moisture. The segments are obtuse, lobed and waved, but not so plaited or sinuous as those of *T. mesenterica*, *v.* 10. *t.* 709, neither is the surface, as in that,



2452

TREMELLA intumescens.

Brown Tumid Tremella.

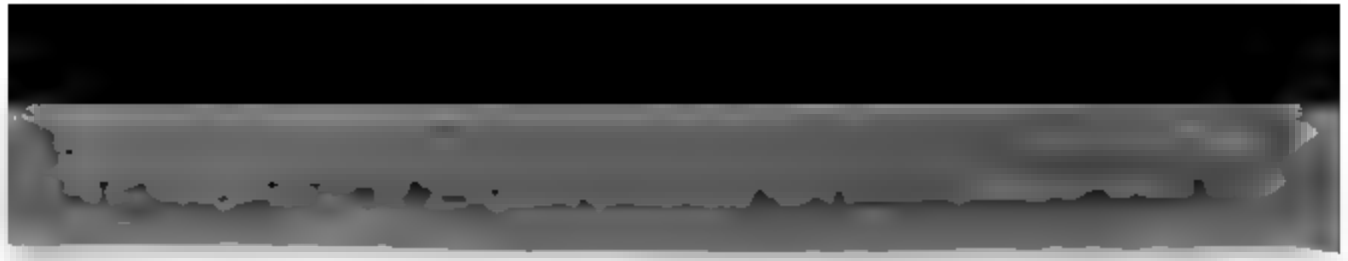
CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, twisted, tumid, brown, shining and gelatinous; when dry, thin and membranous.

FOUND growing on a beech in St. Leonard's forest, Sussex, by Mr. W. Borrer in January 1807. We can find no description in Persoon nor any other author that accords with it.

This species, like *T. mesenterica*, *t.* 709, is in perfection in very wet weather only, when it forms numerous roundish soft and pulpy clusters, twisted and tumid like the intestines of some animal, of a darkish dull brown, but with a shining surface obscurely dotted. The inside is paler and almost white, except that, when cut longitudinally, brown vertical streaks are



TREMELLA moriformis.

Mulberry Tremella.

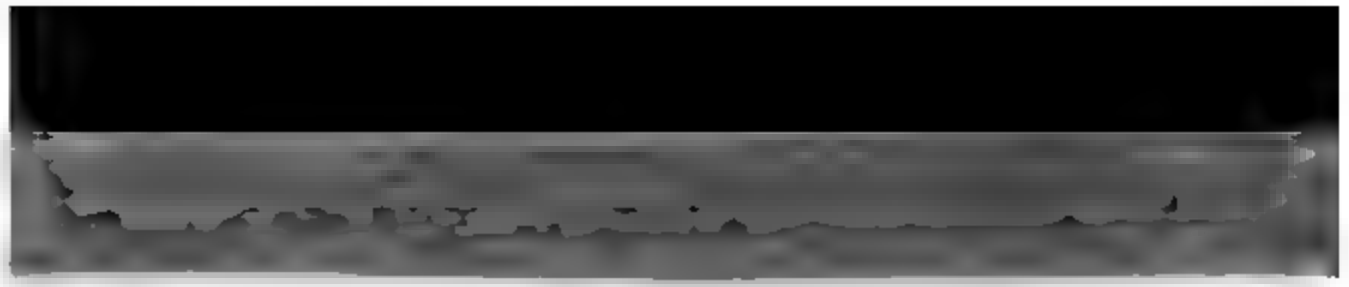
CRYPTOGAMIA Alga.

Gen. Char. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

Spec. Char. Sessile, clustered, twisted, black, opaque; internally fleshy, deep purple.

FOUND by Mr. C. E. Sowerby, on poles and rails between Hendly gate and Mentham, Surry, early in June last. We can discover no synonym for this plant, and therefore venture to publish it as new.

[illegible]



125

[2450]

TREMELLA sarcoides.

Fleshy Tremella.

CRYPTOGAMIA Algæ.

Gen. Char. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

Spec. Char. Sessile, gelatinous, reddish purple; at first club-shaped; then rounded, lobed, plaited or curled; finally blackish.

Syn. Tremella sarcoides. *With.* v. 4. 78.

T. amethystea. *Bull. Fung.* v. 1. 229. *t.* 4[illegible]. *f.* 5. *With.* v. 4. 82.

Helvella sarcoides. *Dicks. Crypt. fasc.* 1. 21. 39. *Bolt. Fung.* v. 3. 101. *t.* 101. *f.* 2.

Elvela purpurea. *Schaff. Fung.* v. 4. 114. *t.* [illegible]

Lichen sarcoides. *Jacq. Misc.* v. 2. 378. *t.* 22.

FOUND on rotten wood, in damp shady places during the autumn. We have gathered it in Tilney gardens, and at Hornsey and Hampstead. Few, even of this tribe, are more varie-


2450

1266.

[2451]

TREMELLA vesicaria.

Bladder Tremella.

CRYPTOGAMIA Algæ.

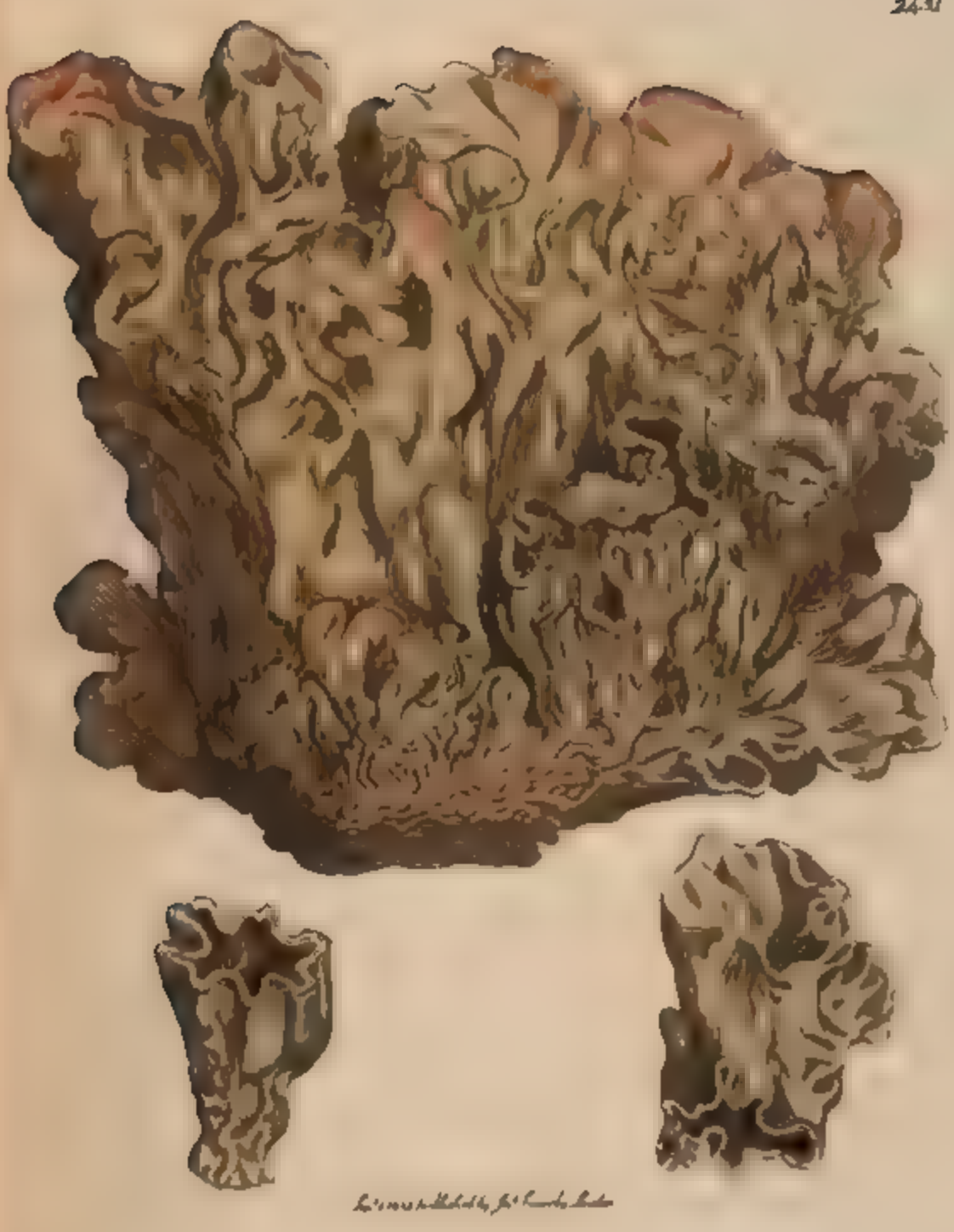
GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Membranous, somewhat rigid, brownish white, pouch-like, filled with viscid evanescent jelly.

SYN. Tremella vesicaria. *Bull. Fung.* 224. *t.* 427. *f.* 3.

BULLIARD mentions this as a very rare species. Our specimen was found many years since, by the late Mr. Jacob Bayer, near Maidstone, Kent, and communicated to Mr. Sowerby by T. F. Forster, Esq.

This *Tremella* always grows on the ground, either solitary or


2451

TREMELLA flaccida.

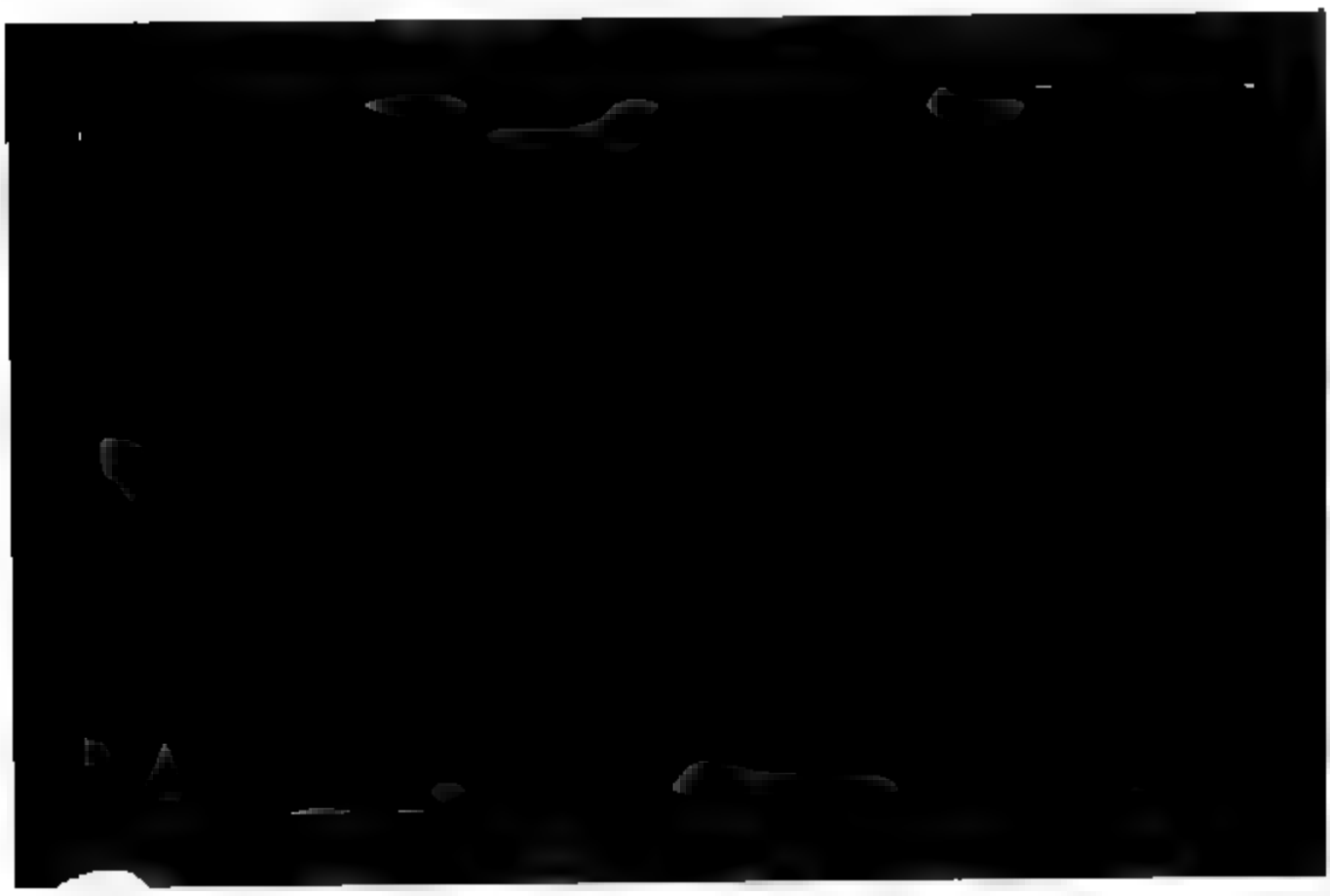
Pendulous Black Tremella.

CRYPTOGAMIA Algæ.

Gen. Char. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

Spec. Char. Membranous, thin, flaccid and pendulous, very black; externally opaque and roughish: internally corrugated.

We conceive this to be a manuscript species of *Tremella*, very distinct and curious in its nature, though most akin to Bulliard's supposed variety of his *Peziza nigra*, t. 116. Ours was found on the perpendicular trunk of a living Oak in Petersham park, growing several specimens one above another, drooping




2452

TREMELLA Auricula.

Jew's-ear Tremella.

CRYPTOGAMIA Algæ.

Gen. Char. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

Spec. Char. Sessile, leathery, reddish brown; rough beneath; rugged and plaited above, resembling an ear.

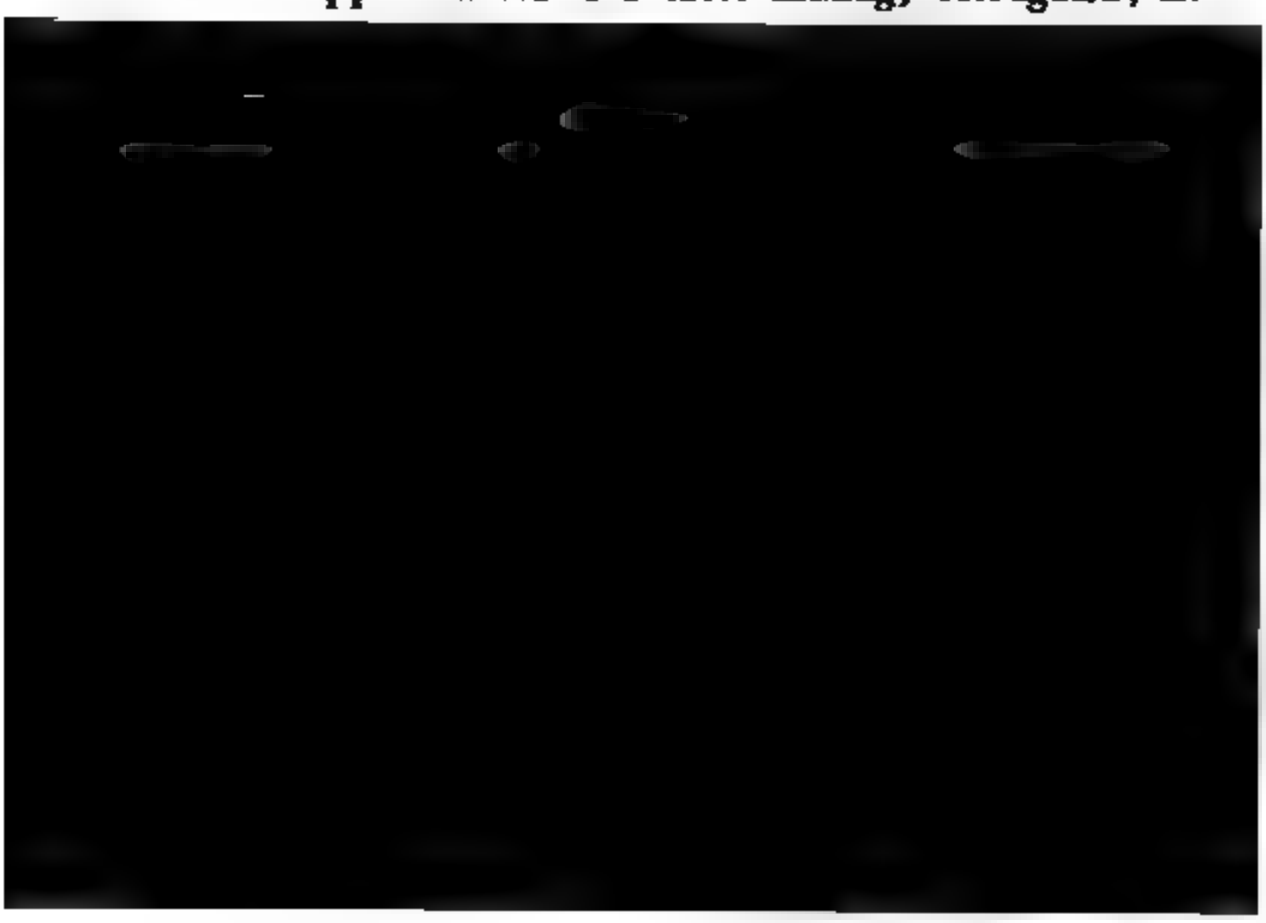
Syn. Tremella Auricula. *Linn. Sp. Pl.* 1625. *Huds.* 563. *Pers. Syn.* 624. *Bull. t.* 427. *f.* 2.

Peziza Auricula. *With. v.* 4. 351. *Hull.* 405. *Relh.* 525. *Sibth.* 357. *Bull. Fung. v.* 1. 241.

P. auriculam referens. *Raii Syn.* 18.

Agaricum auriculæ formâ. *Mich. Gen.* 124. *t.* 66. *f.* 1.

GENERALLY found upon rotten stumps of the Elder-tree. This species is of a semi-transparent, more or less deep, reddish brown, the under surface darkest, opaque, and roughish: the upper smooth and more shining, corrugated; the



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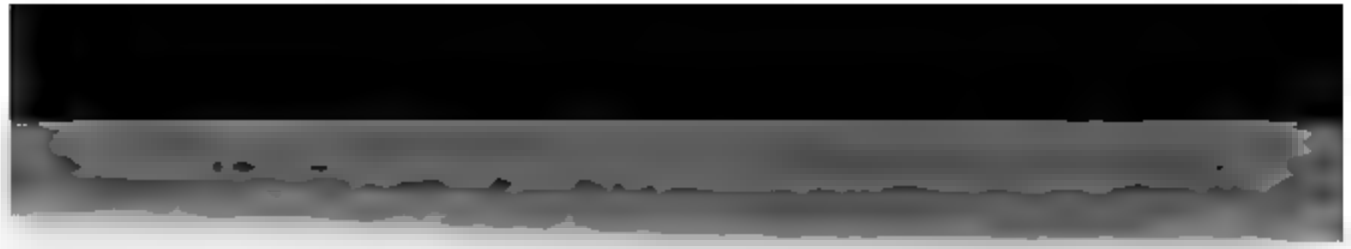


129

TREMELLA arborea.

Witches' Butter Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, gelatinous, roundish, undulated, blackish, beset with mammillary white-headed processes on the upper side.

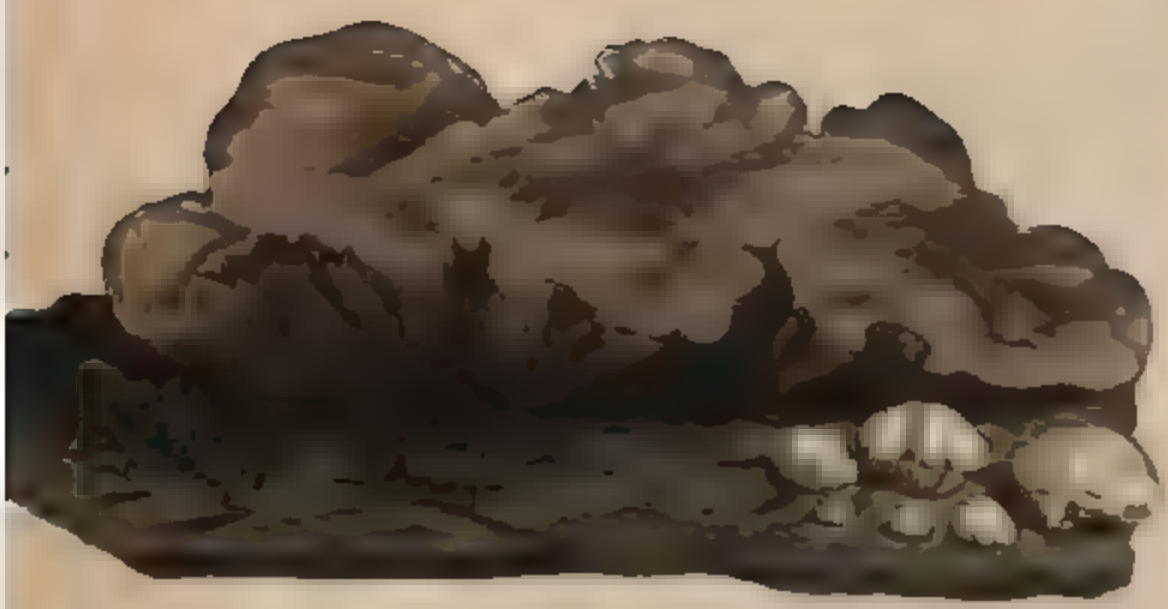
SYN. Tremella arborea. *Huds.* 563. *With.* v. 4. 78. *Hull.* 309. *Relh.* 477. *Sibth.* 390. *Abbot.* 271.

T. glandulosa. *Bull. t.* 420. *f.* 1.

T. arborea nigricans, minùs pinguis et fugax. *Dill. Musc.* 54. *t.* 10. *f.* 15.

COMMON upon fallen trees and dead sticks in the winter months; Bulliard says, most frequently on the Alder. It consists of roundish unequal masses, rarely elevated on any thing like a stalk: lobed above: most corrugated beneath. The substance is thickish and gelatinous: the colour pale and transpa-

2448



TREMELLA boletiformis.

Brown Rough-backed Tremella.

CRYPTOGAMIA Algæ.

Gen. Char. *Fructification* scarcely perceptible in a membranous jelly-like substance.

Spec. Char. Nearly sessile, scattered, roundish, depressed, brown; smooth and shining above; rough and dotted beneath.

WE have been long in doubt concerning this *Tremella*, which was found in Sussex by Mr. W. Borrer, and at Starston and [illegible] by Mr. W. J. Hooker. It was supposed [illegible] Rott. in *Act. of Bot.* t. 1. 260; [illegible] Persoon. *Syn. Fung.* 633, and [illegible] 460. *f.* 2; but we find it so different from that figure and from many points in all the descriptions, that we venture to [illegible] it as new.

It grows scattered, not clustered, each plant being nearly sessile, irregularly orbicular, depressed, all over of a dull, not reddish, brown. The upper surface is unequal, but smooth and polished; the under rough, and as it were dotted, which roughness, extended to the edge, gives it a crenate aspect.

T. fungiformis is more stalked and reddish, concave at the top, and smooth on both sides.

1819

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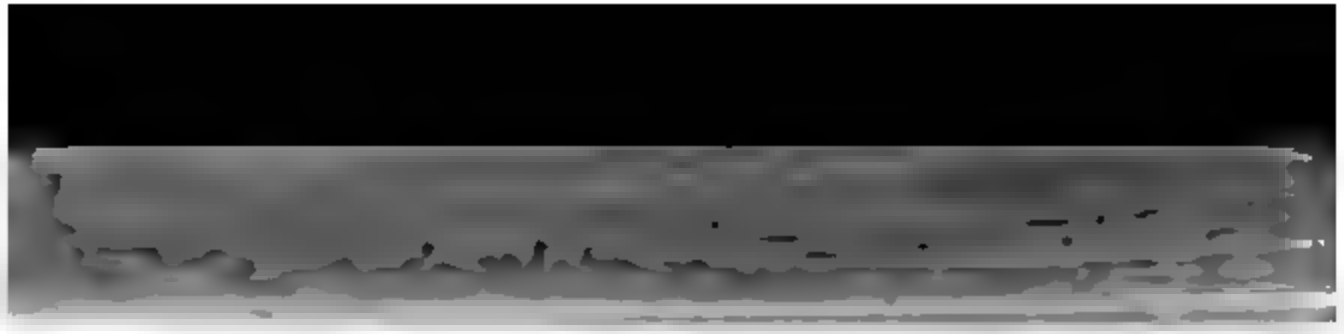


TREMELLA albida.

Whitish Tremella.

Cryptogamia Alge.

Gen. Char. *Fructification scarcely perceptible in a membranous gelatinous substance.*

Spec. Char. *Sessile, flexed, stone, whitish or cinereous brownish, polypy, semipellucid.*

Syn. Tremella albida. *Huds.* 565. *Withr.* v. 4. 77. *Hud.* 502. *Bull.* 471. *Sibth.* 592. *Abbot.* 270.

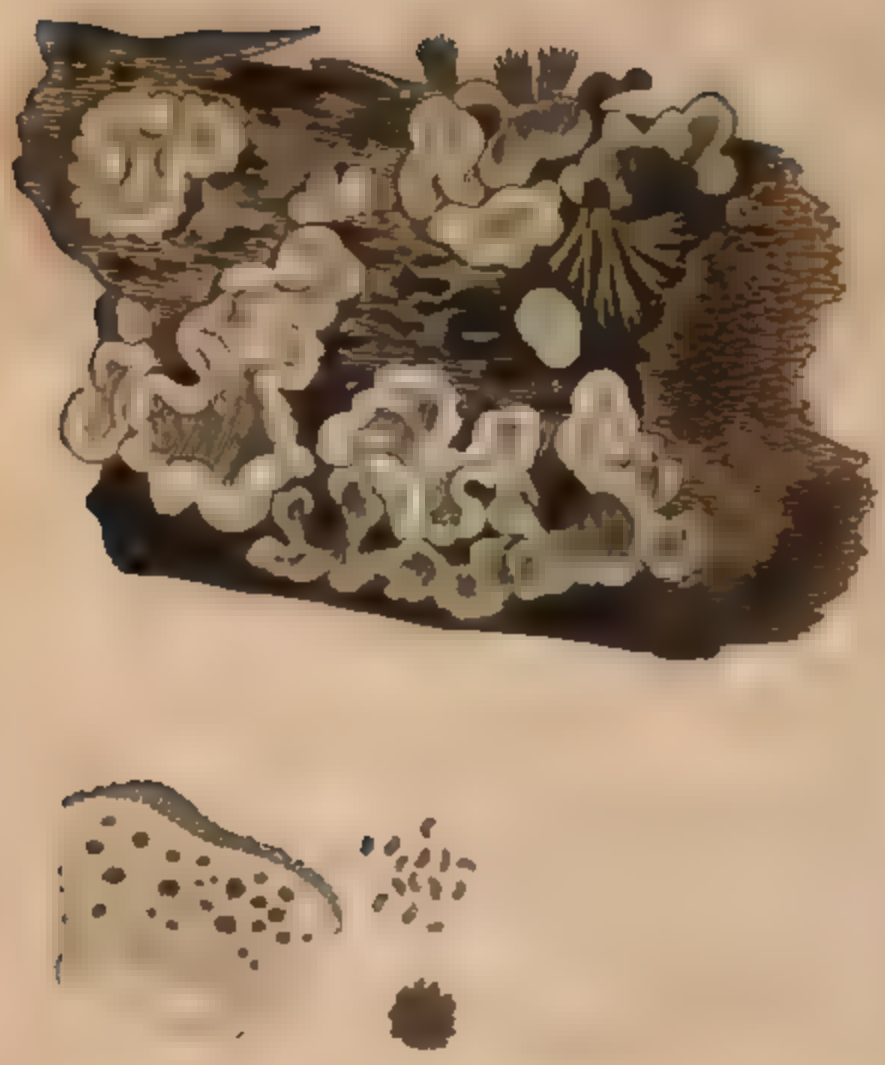
T. candida. *Pers. Syn. Fung.* 624?

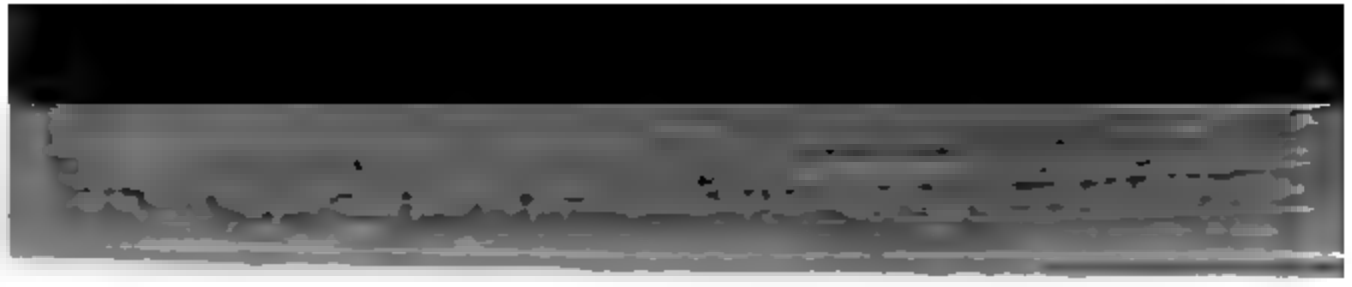
T. cerebrina. *Bull. Fung.* t. 1. 221. f. 385.

Elvela nivalis. *Schaeff. Fung.* t. 2. f. 198.

FOUND in dense [illegible] of trees in shady woods, or [illegible]. Mr. L[illegible] has sent it on a [illegible].

It [illegible] through cracks in the bark, and then spreads itself [illegible] flexed, rounded, obtuse, scalloped masses, white, compressed, extremely gelatinous and tender when young; afterwards turning yellowish. Bulliard observes that in the white state it is often so like the brain of an animal as to be capable of deceiving the eye, and if laid on a plate of glass, covered it with powdery seeds. This circumstance, and its being found on old dead wood, proves the vegetable nature of the production, and that it is not an exudation of mucilage from the wood in consequence of immoderate wet.—— Bulliard says some varieties are always yellow, others brown or almost black.





132.

TREMELLA Noſtoc.

Ground Tremella.

CRYPTOGAMIA Algæ.

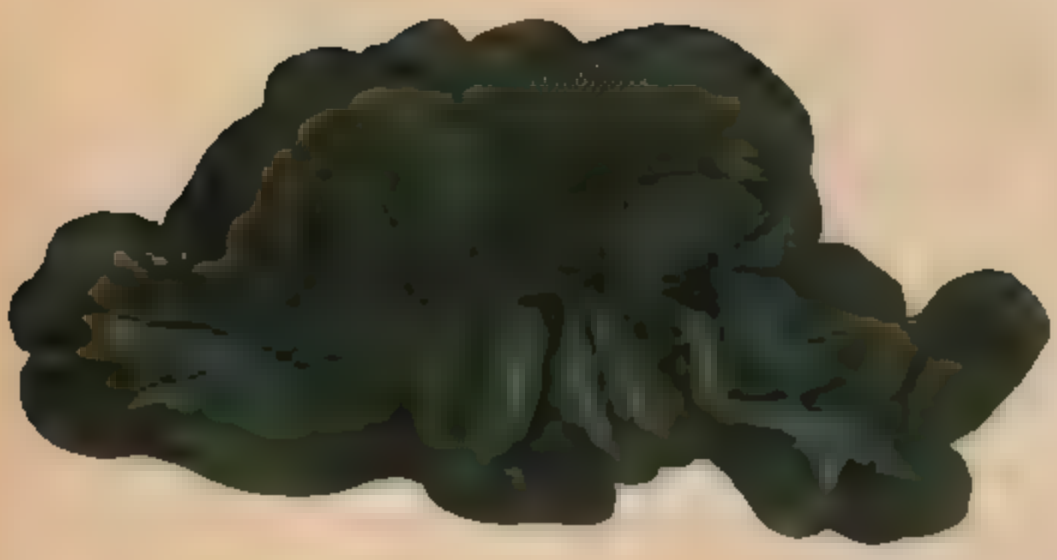
GEN. CHAR. *Fructification* ſcarcely perceptible, in a membranous jelly-like ſubſtance.

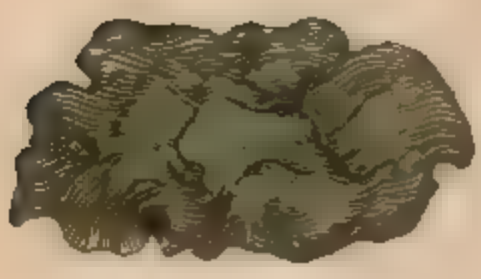
SPEC. CHAR. Seſſile, roundiſh, plaited, waved, of an olive green.

SYN. Tremella Noſtoc. *Linn. Sp. Pl.* 1625. *Huſſ.* 564. *With. V.* 4. 80. *Relh.* 441. *Sibth.* 390.

Ulva terreſtris pinguis et fugax. *Raii Syn.* 64.

THE right honourable Lady Arden, in her reſearches for *Fungi*, met with this fine ſpecimen of the *Tremella Noſtoc*, which is not indeed an uncommon plant in paſtures, or on gravel walks, after rainy weather, at various ſeaſons of the year, though ſeldom ſo large as is here repreſented. It grows very ſlightly attached to the ground, of a tender gelatinous ſubſtance, forming a variouſly convoluted waved and inflated leaf, of a dull or olive green, quite ſmooth. On the return of dry weather, it ſuddenly dries up, becomes black and brittle, and diminiſhes ſo much in ſize as to be eaſily overlooked. Its fructification has not, to our knowledge, been obſerved; but there is every reaſon to ſuppoſe it is propagated by ſeeds, which muſt be lodged in the gelatinous ſubſtance. The ge-





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133.

TREMELLA Sabinæ.

Savine Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

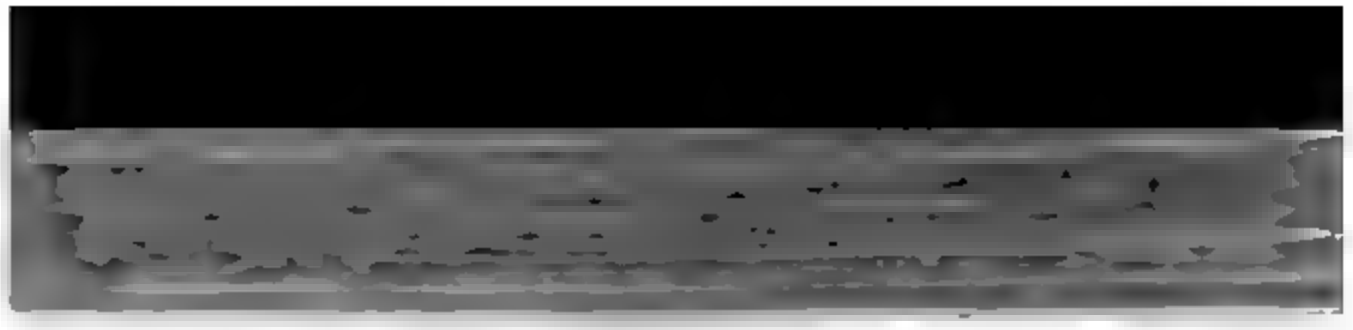
SPEC. CHAR. Sessile, prominent, oblong, tooth-shaped, tawny, somewhat powdery.

SYN. Tremella Sabinæ. *Dicks. Crypt. fasc.* 1. 14. *With. v.* 4. 79. *Hull.* 309.

Fungus gelatinus dentatus, Sabinæ adnascens, fulvi coloris. *Raii Syn.* 16.

MOST parasitical plants of the class *Cryptogamia* are found either upon totally dead trunks or branches, which is the case with *Fungi*, and with *Tremellæ* in general; or they are rooted, like the crustaceous Lichens, in decayed external layers of the bark. On the contrary, the production now before us springs from the live wood, under the bark, of the most vigorous branches of *Juniperus Sabina*. The branch is always swelled in that part, but otherwise healthy. The excrescences themselves are from one line to an inch long, their length and bulk decreasing exactly in proportion with the thickness of the branch from which they originate, so that some are seated on the very youngest green twigs, we extremely small. These never however grow larger. They all come out together in very wet seasons only, and are oblong, or more or less terminate forms, often lobed, of a brownish orange hue. Their substance is mucilaginous, their surface powdery, but destitute of any skin. Sometimes they are somewhat hollow. In dry weather they suddenly collapse and dry up. —An exactly similar substance is found on the *Juniperus communis*, and is certainly what Linnæus meant by his *T. juniperina*.

From the above circumstances I have always thought these to be mere gummy exudations, and that the powdery surface was owing to resinous particles, insoluble in water, accompanying them. No one has hitherto assented to this opinion. I propose it for the sake of enquiry only.



134.

TREMELLA granulata.

Granulated Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Green, globular, clustered, membranous, containing a fluid.

SYN. Tremella granulata. *Huds. Fl. An.* 566. *With. Bot. Arr. v.* 3. 225. *Relh. Cant. Suppl.* 1. 26.

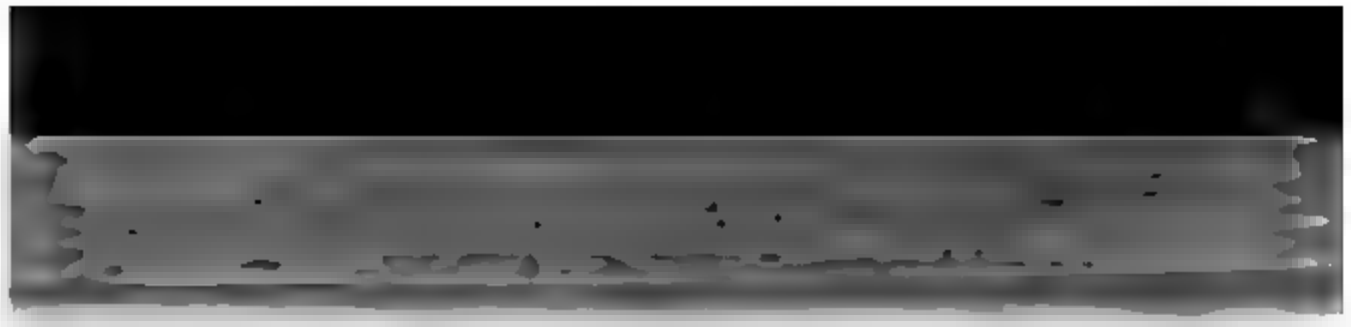
T. globosa. *Weis Gotting.* 28.

T. palustris, vesiculis sphæricis fungiformibus. *Dill. Musc.* 55. *t.* 10. *f.* 17.

Ulva granulata. *Linn. Sp. Pl.* 1633. nec *Mant.* 136.

Lichenoides fungiforme, capitulis vel vesiculis sphæricis aqueo humore repletis. *Raii Syn.* 70.

GATHERED very abundantly Sept. 6, 1795, at Camberwell in a pond partly dried up, also on the mud of ditches in that neighbourhood. It consists of innumerable green globules, about the size of mustard seed, sessile at first, but soon elevated



135.

[1800]

TREMELLA cruenta.

Gory Tremella.

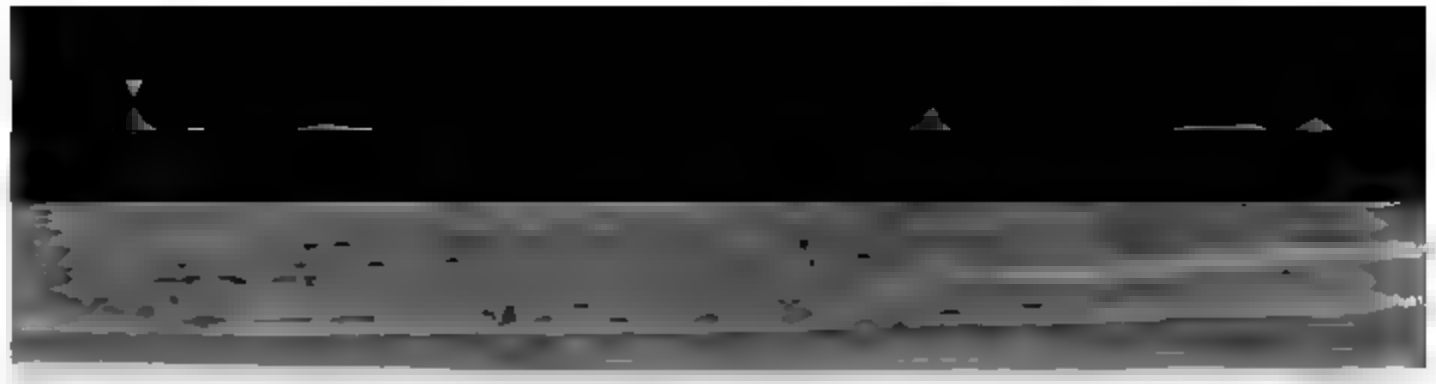
CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Minutely granulated, diffuse, indeterminate, shining, dark purple.

COMMON about the lower parts of walls in damp situations, even in the streets of close towns, during the wet wintry months. In such situations it forms broad indeterminate patches, of a deep rich purple, with a shining surface, as if blood or red wine had been poured over the stone or ground. When examined with a microscope, it proves to be a congeries of extremely minute, pellucid, globular granulations, all equal in size. No particular scent or flavour is observable, nor does this production appear to have any affinity,

1800



BYSSUS barbata.

Bearded Yellow Byſſus.

CRYPTOGAMIA Algæ.

Gen. Char. Whole plant conſiſting of down or ſimple powder. *Fructification* unknown.

Spec. Char. Filaments upright, branched, bundled, with annual interruptions, tawny, with ſmooth, ſwelled, deeper-coloured tips.

Syn. Byſſus barbata. *Hudſ.* 606. *Hull.* 308.
B. fulva. *With.* v. 4. 144. *t.* 18. *f.* 5.
B. arborea barbata, fulvi coloris. *Dill. Muſc.* 9. *t.* 1. *f.* 19. *Raii Syn.* 57.

DR. WITHERING has accidentally referred this production to the *Byſſus fulva* of Hudſon inſtead of his *barbata*; hence there is ſome confuſion in his account of it. We have [illegible] by the Right Hon. Lady Elizabeth Noel [illegible] are [illegible] that [illegible] laid [illegible] this genus. [illegible] of the rich [illegible] and ſemi-tranſparent; we have ſought in vain for any grains or ſeeds, but Dr. Withering perhaps had a more [illegible] ſpecimen.

The B. [illegible] grows on decayed wood in ſhady places, as court-yards, &c. It forms thick tawny-coloured tufts, from one to two inches high, and is perennial, the growth of each year being marked by a ſwelling and a darker colour in each principal filament or ſtem. Young plants conſiſt of a ſimple filament, regularly and beautifully feathered at the ſummit.


701.